

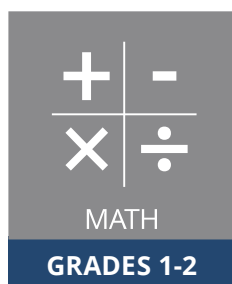
# English Language Arts and Math

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Grades 1-2

Participant Packet

Tennessee Department of Education | 2015 Summer Training





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# Welcome, Participants!

Early grades teachers are crucial to helping students build the foundational skills of both literacy and numeracy. In this training, teachers will deepen both content and pedagogical knowledge of these foundational skills and learn concrete strategies to support student learning.

Throughout the literacy section of this training, we will focus on how various components of a literacy block (e.g. read aloud, word study) work together to support students in making sense of text. As early grades teachers, it is important to remember that comprehension is not a specific skill we teach during a 45-minute “comprehension lesson”: it is the habit of mind we teach continuously throughout all components of literacy, as well as through other content areas.

In the math section of this training, we will define mathematical knowledge for teaching and consider the demands of teaching math in the early grades. Also, we will deepen our understanding of the foundational skills of place value and learn strategies for teaching place value with understanding.

We are proud to share that the content of this training was developed by Tennessee educators, for Tennessee educators. We’d specifically like to thank the following educators who contributed to the creation and review of this content:

- Susan Armstrong, East TN Center of Regional Excellence - TDOE
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# Norms to Guide our Instructional Day

- Keep students at the center
- Be present and engaged
- Monitor airtime and share your voice
- Challenge with respect
- Be solutions oriented
- Risk productive struggle
- Balance urgency and patience

# Module Topics and Schedule

## Day 1

Module		Topic	Time
Opening		Welcome to Summer Training	8:00-8:30
Module 1		Third Grade Readiness	8:30-9:30
Module 2 Supporting Comprehension through Read Aloud	Module 2a	Selecting Appropriately Complex Read Aloud Texts	9:30-10:30
		Break	10:30-10:45
	Module 2b	Listening and Language Comprehension	10:45-11:30
		Lunch	11:30-12:45
		Listening and Language Comprehension	12:45-3:00
		Break	3:00-3:15
	Module 2c	Repeated Reading and Close Reading	3:15-4:00

## Day 2

Module	Topic	Time
Finish Module 2c	Repeated Reading and Close Reading	8:00-9:00
Module 3	Supporting Comprehension through Phonological Awareness	9:00-9:45
	Break	9:45-10:00
Module 4	Supporting Comprehension through Decoding	10:00-10:45
Module 5	Supporting Comprehension through Sight Recognition	10:45-11:30
Lunch		11:30-12:45
Module 6	Mathematical Knowledge and Teaching	12:45-1:45
	Break	1:45-2:00
Module 7	Deep Dive into Mathematics	2:00-3:45
Closing		3:45-4:00

# The Stakes are High in Early Grades

- **Three-quarters** of children who struggle with reading in third grade will continue to struggle in school.
- Children who do not read proficiently by the end of third grade are **four times more likely** to drop out of school than proficient readers.
- **Eighty-two percent** of fourth graders from low-income families failed to reach the “proficient” level in reading on the 2011 National Assessment of Educational Progress (NAEP).
- Children who cannot read proficiently and are poor for at least one year are **six times more likely** to drop out of high school than proficient readers.

- The Annie E. Casey Foundation

## Discussion

- Which statistic is most startling or compelling to you? Why?



# **Module 1**

## **Third Grade Readiness**

# Module 1: Third Grade Readiness

## Objectives

- Understand the knowledge, skills, and habits students need to be successful on third grade tasks.
- Backward map the ELA standards from third grade to first or second grade.
- Review research recommendations on comprehension.

## Standards

Knowledge of the academic expectations of future grade levels is relevant to all standards. This module most closely aligns with the following College and Career Readiness Anchor Standards for Reading:

### Key Ideas and Details

- Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

### Craft and Structure

- Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

## TEAM Alignment

- Standards and Objectives
- Teacher Content Knowledge

# Third Grade Writing Task

## Student Directions

Today you will be taking the Grade 3 Writing Task. The task is made up of two texts and a prompt about those texts. You are to plan and write an essay about the texts according to the instructions provided. Your essay will be scored as a rough draft, but you should watch for careless errors.

There are some important things to remember as you complete the task:

- The time you have for reading both texts and answering the prompt will be 90 minutes.
- Read the prompt carefully and think about the best way to answer it.
- Type your essay using the computer at which you are sitting.
- Write only about the texts and prompt you are given.
- You may use the blank paper provided to you for pre-writing activities and notes, but only responses typed on the computer will be scored.

## Topic

Penguins often live in very cold places. These places can affect their lives. This task will address Emperor penguins and little penguins and how they both live.

## Texts

- *The Emperors' Challenge* by Deborah Churchman
- *Waiting for the Little Penguins* by Vijayalakshmi Chary

*\* Please note that this task has been modified from the version that appears on the MIST platform and at [http://tncore.org/sites/www/Uploads/ELA\\_Tasks/K\\_3/Grade3Practice2Penguins.pdf](http://tncore.org/sites/www/Uploads/ELA_Tasks/K_3/Grade3Practice2Penguins.pdf) in order to fit in this training material. For the final version, please visit the link above.*

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# The Emperors' Challenge

By Deborah Churchman

## Text 1 Introduction

In *The Emperors' Challenge* by Deborah Churchman, the author discusses Emperor penguins and the challenges of penguin life.

### Out of the Water

Emperor penguins can't fly, but they're astonishing swimmers and divers. They can dive deeper than any other kind of bird—down to 1,800 feet (550 m). And they can stay underwater for up to 22 minutes!

The birds spend their summers in the chilly Antarctic Ocean, diving for fish, krill, and squid. But as the days get shorter and the ice thickens, the birds leap out of the water. . . . and head inland. . . .

### Egg-Sitting

At the penguin colony, males and females call, waddle, and bow to each other. Finally, most of them pair up. . . . A couple of months later, the female lays an egg. She holds it on her feet to keep it from touching the ice. (If she drops the egg, it will freeze in less than two minutes!)

Then she and her mate do a very difficult thing. They stand very close together, and the male uses his bill to move the egg from the female's feet to his feet. He scoots the egg next to his bare-skinned brood patch<sup>1</sup>, and covers it with his long belly feathers.

By this time, none of the penguins has eaten for two months. Just laying her egg has used a lot of each female's energy, so she must return to the ocean to feed. Her mate stays—for two *more* months. He shuffles around through wind and storm with the egg on his feet, trying to keep it from freezing.

### The Chick, At Last!

Finally, the chick inside begins to peck its way out. Soon it's resting safely.

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<sup>1</sup> brood patch: a flap of loose skin that keeps the eggs warm





About this time, its mother comes back—and has to find her family in the huge, noisy colony. She finds them by listening for her partner’s call. She then meets her baby for the first time. The baby whistles, Mom opens her mouth, and—erp!—she brings up a big, fishy meal for her little one.

By this time, the male has lost up to a third of his weight. He transfers the baby to its mother’s feet and waddles off on the long journey back to the ocean to feed.

# Waiting for the Little Penguins

By Vijayalakshmi Chary

## Text 2 Introduction

In *Waiting for the Little Penguins* by Vijayalakshmi Chary, the author describes the challenges of the daily journey of the smallest penguins in the world.

## Text 2

Bottled-nosed dolphins, green sea turtles, brightly colored fish, and the coral reef are all part of Australian, ocean life. Did you know that the little penguins<sup>2</sup> are too?

At the Phillip Island Nature Park near Melbourne, visitors bundle up in jackets, scarves, and mittens. They have come to see the little penguins. After walking along a high boardwalk, they huddle on the bleachers at Summerland Beach. They keep their eyes glued to the sea, and they wait.

Behind the waves, the little penguins call one another and group together. After dark, groups of royal blue and white, little penguins appear on the seashore. These groups are called rafts. Little penguins are safer when they are in rafts; in one raft there can be as few as three or as many as 300 penguins! Many rafts appear scattered along the beach. Within three hours, 26,000 little penguins come home from the sea!

Once they are on the beach, the little penguins trudge through the bumpy sand to their separate burrows on the sand dunes. This long, hard trek from the sea to their burrow is a dangerous one because predators are nearby. Dogs and foxes can smell them. White-breasted sea eagles and Pacific gulls can spot them. Darkness helps protect them because it is harder to see them.

The little penguins search for their burrows as the visitors walk back on the boardwalk. They waddle a few feet, stop, look, and plod along again. "Huk, huk!" The little penguins are calling one another. A penguin colony is a noisy one. Some little penguins are fighting over burrows. Some are calling their mates. . . .

Every morning before sunrise, the little penguins hurry across the sand in the opposite direction of the night before. This time they splash into the cool sea.

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<sup>2</sup> little penguins: the smallest penguins in the world.

The little penguin is a quick swimmer and excellent diver. All day long, it hunts for small fish, squid, and crab larvae<sup>3</sup>. After it captures a prey, a few jerks of the penguin's head can swallow a fish up to 15 centimeters long—almost half its height! But it must take care in the sea too. It can become a nice meal for a hungry shark or a leopard seal.

After a long day at sea, the little penguins swim once again towards the seashore, calling one another. Just before sunset, many bundled visitors gather on the bleachers. They keep their eyes glued to the sea. They wait for the little penguins again.

## Writing Prompt

You have now read two texts about penguins and their lives:

- *The Emperors' Challenge* by Deborah Churchman
- *Waiting for the Little Penguins* by Vijayalakshmi Chary

Write an opinion essay about which group of penguins has a more difficult time living in its environment. Be sure to use facts and details from both texts to support your opinion. Follow the conventions of standard written English. Write your essay in the space provided.

---

<sup>3</sup> crab larvae: early form of crabs.



## Third Grade Readiness: Knowledge, Skills, and Habits

What knowledge, skills, and habits do students need to be successful on this third grade task, given the demands of the standards?

Knowledge	Skills	Habits

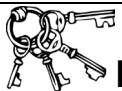
# Preparing for Third Grade Now

What do students need to be doing in first or second grade so that they are prepared to be successful in third grade?

1. Review the Tennessee Academic Standards, printed in your appendix. The standards are organized by strand and show the progression of the standard from PreK to third grade.
2. Review the third grade writing task. Determine which standards are reflected in the writing task.
3. Looking at the culminating third grade standard, note the progression in expectations from third grade to your grade. What does this progression make you think about your own instruction and how you can be preparing your students for future expectations?
4. Make notes in the chart below.

<p><b>Writing</b></p>	<p><i>Example</i>  <i>Anchor 1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.</i></p> <p><i>In first grade, the standard expects students to write, state an opinion, supply a reason for their opinion, and provide some closure. In second grade, the standard expects students to supply multiple reasons for their opinion and use linking words (e.g. because, also). By third grade students have to create an organizational structure that lists reasons that support their opinion. As a first grade teacher, I can be thinking about how to prepare my students to give multiple reasons for their opinion that are organized in a sequential way.</i></p>
<p><b>Foundational Skills</b></p>	

<p><b>Informational Text</b></p>	
<p><b>Speaking and Listening (optional)</b></p>	
<p><b>Language</b></p>	



### Key Idea

To be successful in current and future grade levels, students must comprehend what they listen to and read. Students must understand that comprehending, or understanding, is the purpose for reading and listening.

# Student Comprehension: Research

## Recommendation 1

*Teach students how to use reading comprehension strategies.*

- Teach students how to use several research-based reading comprehension strategies.
- Teach reading comprehension strategies individually or in combination.
- Teach reading comprehension strategies by using a gradual release of responsibility.

## Recommendation 2

*Teach students to identify and use the text's organizational structure to comprehend, learn, and remember content.*

- Explain how to identify and connect the parts of narrative texts.
- Provide instruction on common structures of informational texts.

## Recommendation 3

*Guide students through focused, high-quality discussion on the meaning of text.*

- Structure the discussion to complement the text, the instructional purpose, and the readers' ability and grade level.
- Develop discussion questions that require students to think deeply about text.
- Ask follow-up questions to encourage and facilitate discussion.
- Have students lead structured small-group discussions.

## Recommendation 4

*Select texts purposefully to support comprehension development.*

- Teach reading comprehension with multiple genres of text.
- Choose texts of high quality with richness and depth of ideas and information.
- Choose texts with word recognition and comprehension difficulty appropriate for the students' reading ability and the instructional activity.
- Use texts that support the purpose of instruction.

## Recommendation 5

*Establish an engaging and motivating context in which to teach reading comprehension.*

- Help students discover the purpose and benefits of reading.
- Create opportunities for students to see themselves as successful readers.
- Give students reading choices.
- Give students the opportunity to learn by collaborating with their peers.

*Improving Reading Comprehension in Kindergarten Through 3rd grade: A Practice Guide*  
Shanahan, Callison, Carriere, Duke, Pearson, Schatschneider, & Torgesen (2010)  
- Retrieved from [www.whatworks.ed.gov/publications/practiceguides](http://www.whatworks.ed.gov/publications/practiceguides)



## Reflection Questions

1. After reading the five recommendations, which of these practices do you currently do in your classroom?
2. Which of the recommendations do you want to learn more about and incorporate into your instruction?
3. After viewing an example of the kinds of tasks third grade students will encounter on TNReady, what is your initial reaction?
4. Thinking about the students you'll have in your classroom next school year, what do you need to do to help them be ready for these types of tasks?







# **Module 2**

## **Supporting Comprehension through Read Alouds**

# The Importance of Read Alouds

Reading aloud is often recommended as the most significant activity for adults to support the emerging literacy skills of young children.

- NELP, 2008.

Reading aloud to young children is not only one of the best activities to stimulate language and cognitive skills; it also builds motivation, curiosity, and memory.

- Bardige, 2009.

Reading texts aloud is the single most important activity for building the knowledge required for successful reading.

- McCormick, 1977.

## Discussion

- Why do you read aloud to your students?
- What instructional objectives do you think about when reading aloud to your students?
- What questions do you have about read alouds? What do you hope to learn today?





# **Module 2a**

## **Selecting Appropriately Complex Read Aloud Texts**



## Module 2a: Selecting Appropriately Complex Read Aloud Texts

### Objective

- Understand the importance of text complexity and how to evaluate and select complex texts for reading aloud in the classroom.

### Standards

College and Career Readiness Anchor Standards for Reading: Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

### TEAM Alignment

- Standards and Objectives
- Activities and Materials

# Why Text Complexity Matters

One of the key shifts of the Tennessee Academic Standards for English Language Arts is that all students must be able to comprehend texts of steadily increasing complexity as they progress through grade levels. By the time they graduate, students must be able to read and comprehend independently and proficiently the kinds of complex texts commonly found in college and careers.

## Activity

In a group of four, read the following excerpts about text complexity. Each group member should read one section. Then, discuss the reflection questions that follow the excerpts. Write your group's responses on a poster. Feel free to use text or visuals to get your ideas across.

## Section 1:

### Why Text Complexity Matters

In 2006, ACT, Inc., released a report called *Reading Between the Lines* that showed which skills differentiated those students who equaled or exceeded the benchmark score (21 out of 36) in the reading section of the ACT college admissions test from those who did not. Prior ACT research had shown that students achieving the benchmark score or better in reading—which only about half (51 percent) of the roughly half million test takers in the 2004–2005 academic year had done—had a high probability (75 percent chance) of earning a C or better in an introductory, credit-bearing course in U.S. history or psychology (two common reading-intensive courses taken by first-year college students) and a 50 percent chance of earning a B or better in such a course.<sup>1</sup>

Surprisingly, what chiefly distinguished the performance of those students who had earned the benchmark score or better from those who had not was not their relative ability in making inferences while reading or answering questions related to particular cognitive processes, such as determining main ideas or determining the meaning of words and phrases in context. Instead, the clearest differentiator was students' ability to answer questions associated with complex texts. Students scoring below benchmark performed no better than chance (25 percent correct) on four-option multiple-choice questions pertaining to passages rated as "complex" on a three-point qualitative rubric described in the report. These findings held for male and female students, students from all racial/ethnic groups, and students from families with widely varying incomes. The most important implication of this study was that a pedagogy focused only on "higher-order" or "critical" thinking was insufficient to ensure that students were ready for college and careers: what students could read, in terms of its complexity, was at least as important as what they could do with what they read.

The ACT report is one part of an extensive body of research attesting to the importance of text complexity in reading achievement. The clear, alarming picture that emerges from the evidence, briefly summarized below<sup>2</sup>, is that while the reading demands of college, workforce training programs, and citizenship have held steady or risen over the past fifty years or so, K–12 texts have, if anything, become less demanding. This finding is the impetus behind the Standards' strong emphasis on increasing text complexity as a key requirement in reading.

## Section 2:

### College, Careers, and Citizenship: Steady or Increasing Complexity of Texts and Tasks

Research indicates that the demands that college, careers, and citizenship place on readers have either held steady or increased over roughly the last fifty years. The difficulty of college textbooks, as measured by Lexile scores, has not decreased in any block of time since 1962; it has, in fact, increased over that period (Stenner, Koons, & Swartz, in press). The word difficulty of every scientific journal and magazine from 1930 to 1990 examined by Hayes and Ward (1992) had actually increased, which is important in part because, as a 2005 College Board study (Milewski, Johnson, Glazer, & Kubota, 2005) found, college professors assign more readings from periodicals than do high school teachers. Workplace reading, measured in Lexiles, exceeds grade 12 complexity significantly, although there is considerable variation (Stenner, Koons, & Swartz, in press). The vocabulary difficulty of newspapers remained stable over the 1963–1991 period Hayes and his colleagues (Hayes, Wolfer, & Wolfe, 1996) studied.

Furthermore, students in college are expected to read complex texts with substantially greater independence (i.e., much less scaffolding) than are students in typical K–12 programs. College students are held more accountable for what they read on their own than are most students in high school (Erickson & Strommer, 1991; Pritchard, Wilson, & Yamnitz, 2007). College instructors assign readings, not necessarily explicated in class, for which students might be held accountable through exams, papers, presentations, or class discussions. Students in high school, by contrast, are rarely held accountable for what they are able to read independently (Heller & Greenleaf, 2007). This discrepancy in task demand, coupled with what we see below is a vast gap in text complexity, may help explain why only about half of the students taking the ACT Test in the 2004–2005 academic year could meet the benchmark score in reading (which also was the case in 2008–2009, the most recent year for which data are available) and why so few students in general are prepared for postsecondary reading (ACT, Inc., 2006, 2009).

## Section 3:

### K–12 Schooling: Declining Complexity of Texts and a Lack of Reading of Complex Texts Independently

Despite steady or growing reading demands from various sources, K–12 reading texts have actually trended downward in difficulty in the last half century. Jeanne Chall and her colleagues (Chall, Conard, & Harris, 1977) found a thirteen-year decrease from 1963 to 1975 in the difficulty of grade 1, grade 6, and (especially) grade 11 texts. Extending the period to 1991, Hayes, Wolfer, and Wolfe (1996) found precipitous declines (relative to the period from 1946 to 1962) in average sentence length and vocabulary level in reading textbooks for a variety of grades. Hayes also found that while science books were more difficult to read than literature books, only books for Advanced Placement (AP) classes had vocabulary levels equivalent to those of even newspapers of the time (Hayes & Ward, 1992). Carrying the research closer to the present day, Gary L. Williamson (2006) found a 350L (Lexile) gap between the difficulty of end-of-high school and college texts—a gap equivalent to 1.5 standard deviations and more than the Lexile difference between grade 4 and grade 8 texts on the National Assessment of Educational Progress (NAEP). Although legitimate questions can be raised about the tools used to measure text complexity (e.g., Mesmer, 2008), what is relevant in these numbers is the general, steady decline—over time, across grades, and substantiated by several sources—in the difficulty and likely also the sophistication of content of the texts students have been asked to read in school since 1962.

There is also evidence that current standards, curriculum, and instructional practice have not done enough to foster the independent reading of complex texts so crucial for college and career readiness, particularly in the case of informational texts. K–12 students are, in general, given considerable scaffolding—assistance from teachers, class discussions, and the texts themselves (in such forms as summaries, glossaries, and other text features)—with reading that is already less complex overall than that typically required of students prior to 1962.<sup>3</sup> What is more, students today are asked to read very little expository text—as little as 7 and 15 percent of elementary and middle school instructional reading, for example, is expository (Hoffman, Sabo, Bliss, & Hoy, 1994; Moss & Newton, 2002; Yopp & Yopp, 2006)—yet much research supports the conclusion that such text is harder for most students to read than is narrative text (Bowen & Roth, 1999; Bowen, Roth, & McGinn, 1999, 2002; Heller & Greenleaf, 2007; Shanahan & Shanahan, 2008), that students need sustained exposure to expository text to develop important reading strategies (Afflerbach, Pearson, & Paris, 2008; Kintsch, 1998, 2009; McNamara, Graesser, & Louwerse, in press; Perfetti, Landi, & Oakhill, 2005; van den Broek, Lorch, Linderholm, & Gustafson, 2001; van den Broek, Ridsen, & Husebye-Hartmann, 1995), and that expository text makes up the vast majority of the required reading in college and the workplace (Achieve, Inc., 2007). Worse still, what little expository reading students are asked to do is too often of the superficial variety that involves skimming and scanning for particular, discrete pieces of information; such reading is unlikely to prepare students for the cognitive demand of true understanding of complex text.



## Section 4:

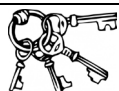
Being able to read complex text independently and proficiently is essential for high achievement in college and the workplace and important in numerous life tasks. Moreover, current trends suggest that if students cannot read challenging texts with understanding—if they have not developed the skill, concentration, and stamina to read such texts—they will read less in general. In particular, if students cannot read complex expository text to gain information, they will likely turn to text-free or text-light sources, such as video, podcasts, and tweets. These sources, while not without value, cannot capture the nuance, subtlety, depth, or breadth of ideas developed through complex text. As Adams (2009) puts it, “There may one day be modes and methods of information delivery that are as efficient and powerful as text, but for now there is no contest. To grow, our students must read lots, and more specifically they must read lots of ‘complex’ texts—texts that offer them new language, new knowledge, and new modes of thought” (p. 182). A turning away from complex texts is likely to lead to a general impoverishment of knowledge, which, because knowledge is intimately linked with reading comprehension ability, will accelerate the decline in the ability to comprehend complex texts and the decline in the richness of text itself. This bodes ill for the ability of Americans to meet the demands placed upon them by citizenship in a democratic republic and the challenges of a highly competitive global marketplace of goods, services, and ideas.

It should be noted also that the problems with reading achievement are not “equal opportunity” in their effects: students arriving at school from less-educated families are disproportionately represented in many of these statistics (Bettinger & Long, 2009). The consequences of insufficiently high text demands and a lack of accountability for independent reading of complex texts in K-12 schooling are severe for everyone, but they are disproportionately so for those who are already most isolated from text before arriving at the schoolhouse door.

- English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects  
Appendix A: Research Supporting Key Elements of the Standards

## Reflection Questions

- Why does text complexity matter?
- Why is exposing students to complex texts in the early grades important?
- How can we expose young students to complex texts in ways that are developmentally appropriate?



### Key Idea

For students to be successful in future grade levels, in college or other postsecondary programs, and in their careers, they must have regular practice with complex texts. In the early grades, since students' independent reading skills are still developing, students must be exposed to complex texts through teacher-guided read alouds.

# Text Complexity Measures

There are three considerations when choosing an appropriate text to read aloud to students: quantitative complexity, qualitative complexity, and the student/reader and task. Each measure is explained in detail below. The three areas work together to provide an appropriate text for reading aloud.

## A Three-Part Model for Measuring Text Complexity

As signaled by the graphic at right, the Standards' model of text complexity consists of three equally important parts.

**(1) Qualitative dimensions of text complexity.** In the Standards, *qualitative dimensions* and *qualitative factors* refer to those aspects of text complexity best measured or only measurable by an attentive human reader, such as levels of meaning or purpose; structure; language conventionality and clarity; and knowledge demands.

**(2) Quantitative dimensions of text complexity.** The terms *quantitative dimensions* and *quantitative factors* refer to those aspects of text complexity, such as word length or frequency, sentence length, and text cohesion, that are difficult if not impossible for a human reader to evaluate efficiently, especially in long texts, and are thus today typically measured by computer software.

**(3) Reader and task considerations.** While the prior two elements of the model focus on the inherent complexity of text, variables specific to particular readers (such as motivation, knowledge, and experiences) and to particular tasks (such as purpose and the complexity of the task assigned and the questions posed) must also be considered when determining whether a text is appropriate for a given student. Such assessments are best made by teachers employing their professional judgment, experience, and knowledge of their students and the subject.

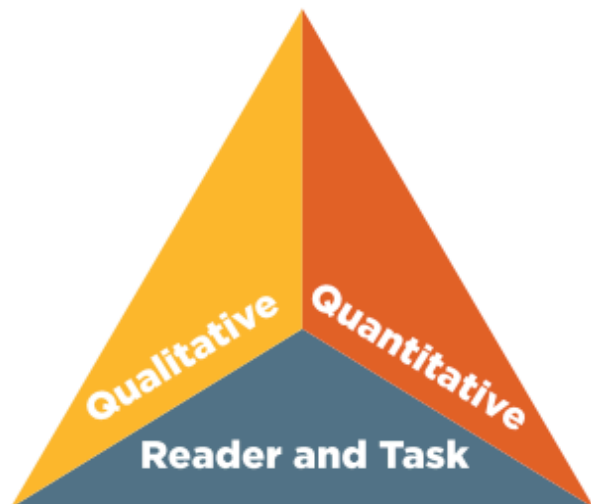


Figure 1: The Standards' Model of Text Complexity

- English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects  
Appendix A: Research Supporting Key Elements of the Standards

# Example: Evaluating Text Complexity

## *Bear Snores On* by Karma Wilson

### 1. Quantitative Complexity

Go to <http://www.lexile.com/> and enter the title of your read aloud text in the Quick Book Search in the upper right corner of the home page. Most texts will have a Lexile measure in this database.

**AD280L**

Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the texts students can read themselves. The letters AD stand for Adult Directed, meaning the book is generally intended to be read aloud to a child, rather than for the child to read it for the first time independently.

2-3 band	420-820L
4-5 band	740-1010L

### 2. Qualitative Complexity

Consider the four dimensions of qualitative text complexity below. For each dimension, note some examples from the text that make it more or less complex.

<p><b>Levels of Meaning/Purpose:</b></p> <ul style="list-style-type: none"> <li>Metaphor ("the night sounds growl")</li> <li>Onomatopoeia ("chomp, crunch")</li> <li>Personification (animals talk and cook food)</li> </ul>	<p><b>Structure:</b></p> <ul style="list-style-type: none"> <li>Simple rhyme</li> <li>Repeated sentences ("The bear snores on")</li> <li>Events happen chronologically.</li> <li>Font size changes; capital letters used for emphasis ("Achooo, BEAR GNARLS and he SNARLS")</li> </ul>
<p><b>Language Conventionality and Clarity:</b></p> <ul style="list-style-type: none"> <li>Unfamiliar words include: lair, damp, dank, hare (instead of rabbit), wee, wren, slumber, fleck</li> <li>Some made-up words ("sniff-snuffs, yummy-yums, fluff-cold")</li> <li>There is close alignment between text and illustrations.</li> </ul>	<p><b>Theme and Knowledge Demands:</b></p> <ul style="list-style-type: none"> <li>Students can't directly relate to the plot because it's fantasy, but could indirectly connect to a time when they were woken up or woke up someone else.</li> <li>The theme of friendship is likely to be familiar to students.</li> <li>Students would likely be familiar with some animals (bear, mouse) and less familiar with others (mole, raven). Knowledge of animals is not necessary to comprehend the plot.</li> <li>In general, the text assumes little to no background knowledge.</li> </ul>

### 3. Reader and Task Considerations

Will my students enjoy this text? Will they find it engaging?

- *My students would really enjoy this text! They love animals and would find the humor engaging.*

What will challenge my students most in this text? What supports can I provide?

- *Some measures of qualitative complexity might be hard for my students. There is new, unknown vocabulary (e.g. blustery, dawn, stokes the fire) and lots of figurative language (e.g. metaphor, onomatopoeia). I will need to both explicitly teach some of these vocabulary words and use other in-the-moment strategies, such as providing synonyms while reading, to help my students understand all these words. I may need to re-read parts of the book, too.*

How will this text help my students build knowledge about the world?

- *Students will learn some new vocabulary words, including animal names. In general, this text's strength is not in how it supports students in building knowledge of the world around them. I would select this text for read aloud more for its enjoyable plot and rich language.*

How can I connect this text to other texts we've read or will read?

- *We've already read Bear Feels Sick, which my students liked. We could read other books in this series, like Bear Wants More and Bear's New Friends. That sequence would allow us to do an author study or compare and contrast the various texts. Students could even write their own bear stories, mimicking the structure of the mentor texts.*
- *This text also reminds me of other fiction books about animals, such as The Mitten. We could compare and contrast those texts too using a graphic organizer.*
- *This text would also pair well with a non-fiction text about bears, their habitats, and hibernation, as well as other texts about forest animals. We could compare and contrast what characteristics of the bear in Bear Snores On are real (e.g. sleeps in a cave) and which are fantasy (in this book the bear eats popcorn; in real life bears eat fish, plants, and small animals).*

Considering the quantitative and qualitative measures of complexity, what kinds of tasks would be rigorous and appropriate for my students?

- *This text is great for sequencing and retelling because different animals arrive at the cave at different times and there is a clear climax and resolution. Students could create a story board with at least five scenes from the story, including the most important scenes, and then retell the story to a friend using their story board.*
- *Given the rich language of this text, students could work with specific vocabulary words or phrases from the story to illustrate them, reinforcing meaning and understanding.*

# Text Complexity: Qualitative Measures Rubric

## INFORMATIONAL TEXTS

Text Title \_\_\_\_\_

Text Author \_\_\_\_\_

	Exceedingly Complex	Very Complex	Moderately Complex	Slightly Complex
<b>TEXT STRUCTURE</b>	<ul style="list-style-type: none"> <li><b>Organization:</b> Connections between an extensive range of ideas, processes or events are deep, intricate and often ambiguous; organization is intricate or discipline-specific</li> <li><b>Text Features:</b> If used, are essential in understanding content</li> <li><b>Use of Graphics:</b> If used, intricate, extensive graphics, tables, charts, etc., are extensive and integral to making meaning of the text; may provide information not otherwise conveyed in the text</li> </ul>	<ul style="list-style-type: none"> <li><b>Organization:</b> Connections between an expanded range of ideas, processes or events are often implicit or subtle; organization may contain multiple pathways or exhibit some discipline-specific traits</li> <li><b>Text Features:</b> If used, directly enhance the reader's understanding of content</li> <li><b>Use of Graphics:</b> If used, graphics, tables, charts, etc. support or are integral to understanding the text</li> </ul>	<ul style="list-style-type: none"> <li><b>Organization:</b> Connections between some ideas or events are implicit or subtle; organization is evident and generally sequential or chronological</li> <li><b>Text Features:</b> If used, enhance the reader's understanding of content</li> <li><b>Use of Graphics:</b> If used, graphic, pictures, tables, and charts, etc. are mostly supplementary to understanding the text</li> </ul>	<ul style="list-style-type: none"> <li><b>Organization:</b> Connections between ideas, processes or events are explicit and clear; organization of text is chronological, sequential or easy to predict</li> <li><b>Text Features:</b> If used, help the reader navigate and understand content but are not essential to understanding content</li> <li><b>Use of Graphics:</b> If used, graphic, pictures, tables, and charts, etc. are simple and unnecessary to understanding the text but they may support and assist readers in understanding the written text</li> </ul>
<b>LANGUAGE FEATURES</b>	<ul style="list-style-type: none"> <li><b>Conventionality:</b> Dense and complex; contains considerable abstract, ironic, and/or figurative language</li> <li><b>Vocabulary:</b> Complex, generally unfamiliar, archaic, subject-specific, or overly academic language; may be ambiguous or purposefully misleading</li> <li><b>Sentence Structure:</b> Mainly complex sentences with several subordinate clauses or phrases and transition words; sentences often contain multiple concepts</li> </ul>	<ul style="list-style-type: none"> <li><b>Conventionality:</b> Fairly complex; contains some abstract, ironic, and/or figurative language</li> <li><b>Vocabulary:</b> Fairly complex language that is sometimes unfamiliar, archaic, subject-specific, or overly academic</li> <li><b>Sentence Structure:</b> Many complex sentences with several subordinate phrases or clauses and transition words</li> </ul>	<ul style="list-style-type: none"> <li><b>Conventionality:</b> Largely explicit and easy to understand with some occasions for more complex meaning</li> <li><b>Vocabulary:</b> Mostly contemporary, familiar, conversational, rarely overly academic</li> <li><b>Sentence Structure:</b> Primarily simple and compound sentences, with some complex constructions</li> </ul>	<ul style="list-style-type: none"> <li><b>Conventionality:</b> Explicit, literal, straightforward, easy to understand</li> <li><b>Vocabulary:</b> Contemporary, familiar, conversational language</li> <li><b>Sentence Structure:</b> Mainly simple sentences</li> </ul>
<b>PURPOSE</b>	<ul style="list-style-type: none"> <li><b>Purpose:</b> Subtle and intricate, difficult to determine; includes many theoretical or abstract elements</li> </ul>	<ul style="list-style-type: none"> <li><b>Purpose:</b> Implicit or subtle but fairly easy to infer; more theoretical or abstract than concrete</li> </ul>	<ul style="list-style-type: none"> <li><b>Purpose:</b> Implied but easy to identify based upon context or source</li> </ul>	<ul style="list-style-type: none"> <li><b>Purpose:</b> Explicitly stated, clear, concrete, narrowly focused</li> </ul>
<b>KNOWLEDGE DEMANDS</b>	<ul style="list-style-type: none"> <li><b>Subject Matter Knowledge:</b> Relies on extensive levels of discipline-specific or theoretical knowledge; includes a range of challenging abstract concepts</li> <li><b>Intertextuality:</b> Many references or allusions to other texts or outside ideas, theories, etc.</li> </ul>	<ul style="list-style-type: none"> <li><b>Subject Matter Knowledge:</b> Relies on moderate levels of discipline-specific or theoretical knowledge; includes a mix of recognizable ideas and challenging abstract concepts</li> <li><b>Intertextuality:</b> Some references or allusions to other texts or outside ideas, theories, etc.</li> </ul>	<ul style="list-style-type: none"> <li><b>Subject Matter Knowledge:</b> Relies on common practical knowledge and some discipline-specific content knowledge; includes a mix of simple and more complicated, abstract ideas</li> <li><b>Intertextuality:</b> Few references or allusions to other texts or outside ideas, theories, etc.</li> </ul>	<ul style="list-style-type: none"> <li><b>Subject Matter Knowledge:</b> Relies on everyday, practical knowledge; includes simple, concrete ideas</li> <li><b>Intertextuality:</b> No references or allusions to other texts, or outside ideas, theories, etc.</li> </ul>



# Text Complexity: Qualitative Measures Rubric<sup>1</sup>

## LITERATURE

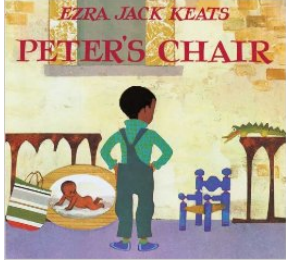
Text Title \_\_\_\_\_

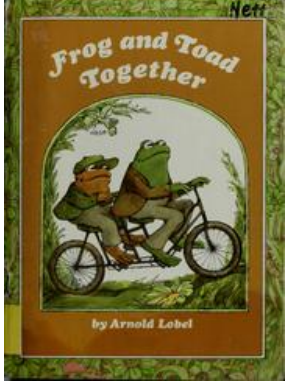
Text Author \_\_\_\_\_

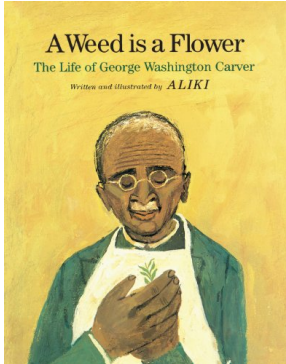
	Exceedingly Complex	Very Complex	Moderately Complex	Slightly Complex
<b>TEXT STRUCTURE</b>	<ul style="list-style-type: none"> <li>Organization: Is intricate with regard to such elements as point of view, time shifts, multiple characters, storylines and detail</li> <li>Use of Graphics: If used, illustrations or graphics are essential for understanding the meaning of the text</li> </ul>	<ul style="list-style-type: none"> <li>Organization: May include subplots, time shifts and more complex characters</li> <li>Use of Graphics: If used, illustrations or graphics support or extend the meaning of the text</li> </ul>	<ul style="list-style-type: none"> <li>Organization: May have two or more storylines and occasionally be difficult to predict</li> <li>Use of Graphics: If used, a range of illustrations or graphics support selected parts of the text</li> </ul>	<ul style="list-style-type: none"> <li>Organization: Is clear, chronological or easy to predict</li> <li>Use of Graphics: If used, either illustrations directly support and assist in interpreting the text or are not necessary to understanding the meaning of the text</li> </ul>
<b>LANGUAGE FEATURES</b>	<ul style="list-style-type: none"> <li>Conventionality: Dense and complex; contains abstract, ironic, and/or figurative language</li> <li>Vocabulary: Complex, generally unfamiliar, archaic, subject-specific, or overly academic language; may be ambiguous or purposefully misleading</li> <li>Sentence Structure: Mainly complex sentences with several subordinate clauses or phrases; sentences often contain multiple concepts</li> </ul>	<ul style="list-style-type: none"> <li>Conventionality: Fairly complex; contains some abstract, ironic, and/or figurative language</li> <li>Vocabulary: Fairly complex language that is sometimes unfamiliar, archaic, subject-specific, or overly academic</li> <li>Sentence Structure: Many complex sentences with several subordinate phrases or clauses and transitional words</li> </ul>	<ul style="list-style-type: none"> <li>Conventionality: Largely explicit and easy to understand with some occasions for more complex meaning</li> <li>Vocabulary: Mostly contemporary, familiar, conversational; rarely unfamiliar or overly academic</li> <li>Sentence Structure: Primarily simple and compound sentences, with some complex constructions</li> </ul>	<ul style="list-style-type: none"> <li>Conventionality: Explicit, literal, straightforward, easy to understand</li> <li>Vocabulary: Contemporary, familiar, conversational language</li> <li>Sentence Structure: Mainly simple sentences</li> </ul>
<b>MEANING</b>	<ul style="list-style-type: none"> <li>Meaning: Multiple competing levels of meaning that are difficult to identify, separate, and interpret; there is implicit or subtle, often ambiguous and revealed over the entirety of the text</li> </ul>	<ul style="list-style-type: none"> <li>Meaning: Multiple levels of meaning that may be difficult to identify or separate; there is implicit or subtle and may be revealed over the entirety of the text</li> </ul>	<ul style="list-style-type: none"> <li>Meaning: Multiple levels of meaning clearly distinguished from each other; there is clear but may be conveyed with some subtlety</li> </ul>	<ul style="list-style-type: none"> <li>Meaning: One level of meaning; theme is obvious and revealed early in the text</li> </ul>
<b>KNOWLEDGE DEMANDS</b>	<ul style="list-style-type: none"> <li>Life Experiences: Explores complex, sophisticated or abstract themes; experiences portrayed are distinctly different from the common reader</li> <li>Intertextuality and Cultural Knowledge: Many references or allusions to other texts or cultural elements</li> </ul>	<ul style="list-style-type: none"> <li>Life Experiences: Explores themes of varying levels of complexity or abstraction; experiences portrayed are uncommon to most readers</li> <li>Intertextuality and Cultural Knowledge: Some references or allusions to other texts or cultural elements</li> </ul>	<ul style="list-style-type: none"> <li>Life Experiences: Explores several themes; experiences portrayed are common to many readers</li> <li>Intertextuality and Cultural Knowledge: Few references or allusions to other texts or cultural elements</li> </ul>	<ul style="list-style-type: none"> <li>Life Experiences: Explores a single theme; experiences portrayed are everyday and common to most readers</li> <li>Intertextuality and Cultural Knowledge: No references or allusions to other texts or cultural elements</li> </ul>

<sup>1</sup> Adapted from Appendix A: Research Supporting Key Elements of the Standards, Common Core State Standards for English Language Arts and Literacy in History/Social Studies and Science and Technical Subjects (2010).

# Examples: Quantitative and Qualitative Analysis

<b><i>Peter's Chair by Ezra Jack Keats</i></b>			
Quantitative Complexity	Lexile: 480 L		
Qualitative Complexity	Levels of Meaning/Purpose	Students must understand that the realistic situations presented in the story represent realistic fiction; some figurative language	
	Structure	Conventional structure; dialogue	
	Language Conventinality and Clarity	Vocabulary is conversational; close alignment between text and illustrations; humor	
	Knowledge Demands	Simple theme, though inferences required; common experiences	

<b><i>Frog and Toad Together by Arnold Lobel</i></b>			
Quantitative Complexity	Lexile: 480 L		
Qualitative Complexity	Levels of Meaning/Purpose	Students must understand that the human behaviors in the animals are fantasy; personification	
	Structure	Events occur chronologically; font size increases to signal exclamations	
	Language Conventinality and Clarity	Vocabulary is conversational; humor	
	Knowledge Demands	The text assumes an understanding of what seeds need to grow	

<b><i>A Weed is a Flower: The Life of George Washington Carver by Alike</i></b>			
Quantitative Complexity	Lexile: 710 L		
Qualitative Complexity	Levels of Meaning/Purpose	Understand the purpose of a biography; information is factual with a clearly stated purpose	
	Structure	Events occur chronologically	
	Language Conventinality and Clarity	Clear language; use of signal words for sequence; close alignment between text and illustrations	
	Knowledge Demands	Text assumes little to no prior knowledge	

- Analysis adapted from Canyon Schools, retrieved at [www.csdelawebly.com](http://www.csdelawebly.com)  
 - Text Complexity Qualitative Analysis Rubrics retrieved from [www.achievethecore.com](http://www.achievethecore.com)

# Practice: Evaluating Text Complexity

## Directions

Read *Martin's Big Words* or *Lon Po Po*. Complete the text complexity analysis template below. Then, discuss your responses with others who selected the same text.

### 1. Quantitative Complexity

Go to <http://www.lexile.com/> and enter the title of your read aloud text in the Quick Book Search in the upper right corner of the home page. Most texts will have a Lexile measure in this database.

*Martin's Big Words*: **AD410L**

*Lon Po Po*: **670 L**

Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the texts students can read themselves. The letters AD stand for Adult Directed, meaning the book is generally intended to be read aloud to a child, rather than for the child to read it for the first time independently.

2-3 band

420-820L

4-5 band

740-1010L

### 2. Qualitative Complexity

Consider the four dimensions of qualitative text complexity below. For each dimension, note some examples from the text that make it more or less complex.

<b>Levels of Meaning/Purpose:</b>	<b>Structure:</b>
<b>Language Conventionality and Clarity:</b>	<b>Theme and Knowledge Demands:</b>



### 3. Reader and Task Considerations

Will my students enjoy this text? Will they find it engaging?

What will challenge my students most in this text? What supports can I provide?

How will this text help my students build knowledge about the world?

How can I connect this text to other texts we've read or will read?

Considering the quantitative and qualitative measures of complexity, what kinds of tasks would be rigorous and appropriate for my students?

- Template modified from *What Makes This Read Aloud Complex?*  
Retrieved from [www.achievethecore.com](http://www.achievethecore.com)

#### **Balancing Narrative and Informational Text**

- On the fifth grade TNReady ELA assessment, the range of score points for Reading Literature and Reading Informational Text are equal. That means that students will see approximately the same number of questions based on informational texts as they do literary texts.
- Eighty-six percent of the texts read by adults are informational, such as newspapers, magazines, directions, and recipes (Source: The Federal Communications Commission).
- The standards demand equal focus on narrative and informational texts. Early grades teachers should keep this expectation in mind when selecting books to read aloud.

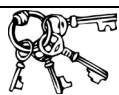
# Balancing Measures of Text Complexity

Exposure to appropriately complex texts is critical for students to be ready for the demands of future grade levels and college and careers. Teachers must thoughtfully balance the three measures of text complexity (quantitative, qualitative, reader and task) in a way that scaffolds expectations for students. For example:

- A teacher may choose a text with **lower quantitative complexity if the qualitative measure is especially complex**, such as a text that addresses complex themes like grief or prejudice, as in *The Story of Ruby Bridges* by Robert Coles.
- A teacher may choose a text with **lower qualitative complexity in theme and knowledge if the language is especially complex**, such as a text with sophisticated vocabulary, syntax, or word play, as in *Skippyjon Jones* by Judy Schachner.
- A teacher may choose a text with **lower qualitative or quantitative complexity if the demand of the task is especially rigorous**, such as analyzing the characters' inferred motivations, writing a parody of the story using the same structure as a mentor text, or comparing and contrasting a series of texts.
- A teacher may choose a **less rigorous task if the quantitative or qualitative measures of the text are especially complex**. For example, a teacher reading *Sadako and the Thousand Paper Cranes* by Eleanor Coerr might choose to focus time on building background knowledge so students understand the setting of post-WWII Japan, a time and place students are unlikely to be familiar with.

## Discussion

- Think about the texts you have in your classroom library. Give examples of texts that represent various measures of complexity and discuss how you could select a unit of texts that represent a balance of quantitative, qualitative, and task demand.



### Key Idea

Balance is key. Teachers should thoughtfully select different read alouds for different purposes, giving students practice comprehending various types of complex texts.





# **Module 2b**

## **Listening and Language Comprehension**

# Listening and Language Comprehension

Listening comprehension is the basis for all other forms of language acquisition, including reading, writing, and speaking.

- Renukadevi, 2014.

Enhancing young children's comprehension and language capabilities is essential for promoting literacy growth. Reading aloud and discussing what is read is an important avenue for helping children deal with decontextualized language.

- Beck, I. and McKeown, M., 2001.

## Objectives

- Understand Scarborough's Reading Rope, the critical strands of language comprehension, and how read alouds support listening and language comprehension.
- Learn and apply strategies for building students' background knowledge, vocabulary, knowledge of language structures, and verbal reasoning through read alouds.

## Standards

Read alouds provide rich context for teaching a range of standards. This module most closely aligns with the following College and Career Readiness Anchor Standards for Reading:

### Key Ideas and Details

- Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

### Craft and Structure

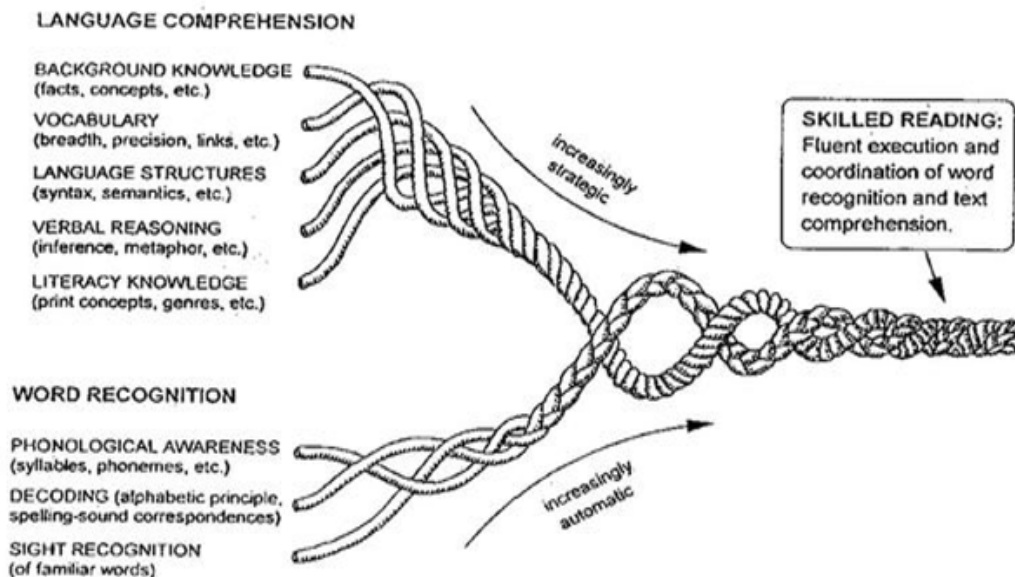
- Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

## TEAM Alignment

- Presenting Instructional Content
- Questioning
- Teacher Content Knowledge
- Thinking

# Scarborough's Reading Rope

## The Many Strands that are Woven into Skilled Reading (Scarborough, 2001)



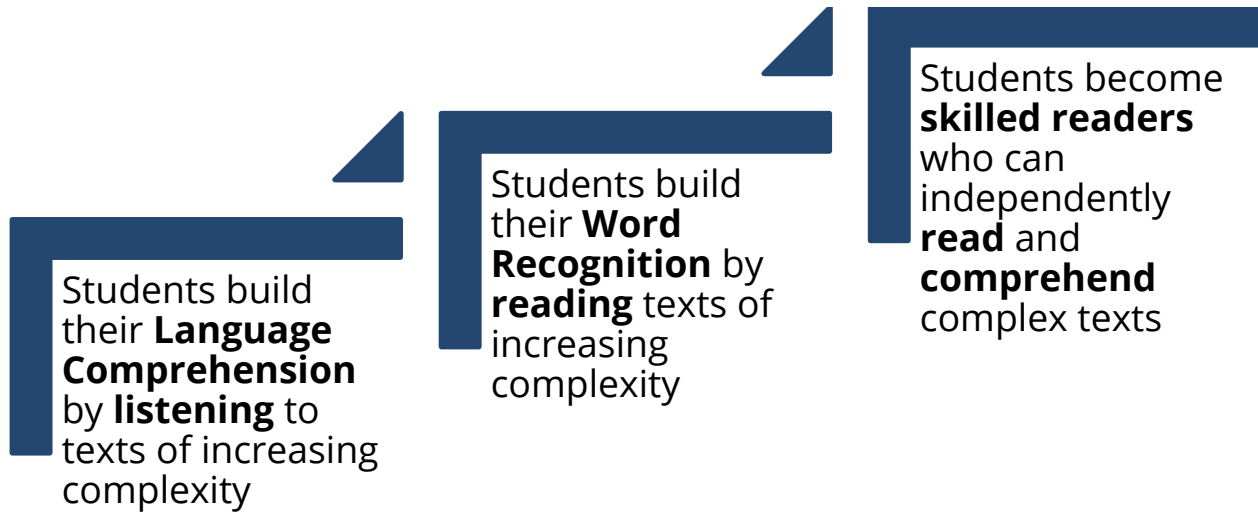
## Activity

Make your own version of Scarborough's Reading Rope, using the materials provided. Take notes in the space below.

## Discussion

- Why are the Language Comprehension strands of the Reading Rope twisted?
- Why are the Word Recognition strands of the Reading Rope braided?
- What does the intersection point of Language Comprehension and Word Recognition represent?
- Why does the Reading Rope get tighter as students become more skilled in their reading?

# The Staircase to Skilled Reading



## Discussion

- What would happen if students weren't exposed to complex vocabulary until they were able to independently decode it?
- What would happen if students weren't exposed to complex text structures until their independent reading level reached that kind of text?
- Do students need to continue to develop listening comprehension even after they become proficient readers? Why or why not?

## Scarborough's Reading Rope: Summary of Key Ideas

In the early grades, students are mostly exposed to two types of reading material: **decodable texts** and **read alouds**.

- Decodable texts serve a purpose and are necessary in the early grades. Students need time with decodable texts to practice decoding at an instructional level.
- Decodable texts aren't very complex for a reason. While there can (and should) be some comprehension questions, retellings, and discussions around decodable text content, they just don't allow for rich comprehension tasks. The text structure and vocabulary is too simple.
- Decodable texts primarily access the Word Recognition part of the Reading Rope. The Language Comprehension part of the Reading Rope is accessed when comprehension and vocabulary tasks are included during or after the reading of decodable texts.

In the early grades especially, **listening comprehension** precedes **reading comprehension**. Students are able to listen and comprehend at a much higher level than they can read and comprehend. This is why it is so important for students to be exposed to rich, complex texts through read aloud.

- It is primarily through read alouds and other oral language tasks that students build the Language Comprehension part of the Reading Rope.
- Read alouds give novice readers access to complex text structure and vocabulary that they are not independently capable of decoding, but are fully capable of understanding. Through modeled reading, students learn and adopt habits of skilled reading that they are later able to apply to their own independent reading.
- As students become more automatic and independent with word recognition, they are ready to tackle the Language Comprehension part of the Reading Rope through independent reading instead of read alouds. This is the part of the Reading Rope where the two sections come together.

3

Thinking about the Reading Rope, what three things do you find most interesting?

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2

Thinking about the Reading Rope, what are two connections you can make to your current classroom practice?

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1

What is one thing you're thinking about differently after reflecting on the Reading Rope?

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## Scarborough's Reading Rope: Classroom Context

Think about what the Reading Rope looks like in action in your classroom. Sketch out your classroom schedule and connect the Reading Rope to different parts of your instructional practice. Use the sample below as a guide. Then, discuss your thoughts with a partner.

Sample Literacy Block Schedule	
Activity	Connection to the Reading Rope
Read aloud	Language comprehension
Whole group word study	Word recognition
Small group guided reading with decodable texts	Word recognition
Sight word games	Word recognition

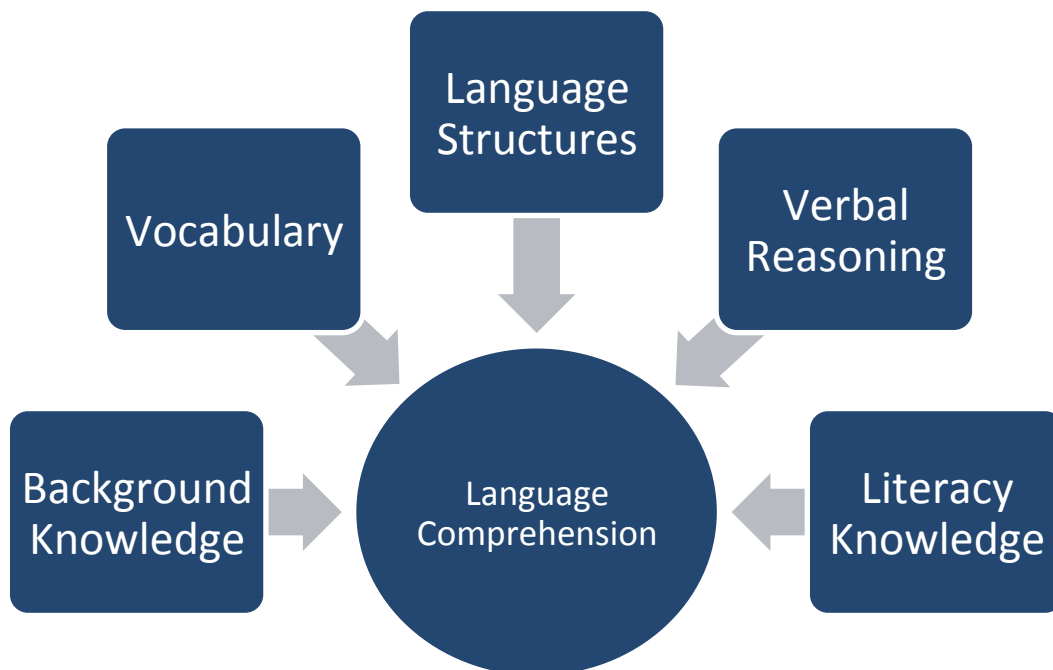
Your Literacy Block Schedule	
Activity	Connection to the Reading Rope

# Language Comprehension

## Activity

Listen to the audio clip. Then, discuss the following questions:

- What is the main idea?
- What made comprehending this clip as a listener easy or difficult?
- How does this activity connect to Scarborough's Reading Rope?



# Building Background Knowledge for Read Alouds

Although it is true that the extent to which students will learn this new content is dependent on factors such as the skill of the teacher, the interest of the student, and the complexity of the content, the research literature supports one compelling fact: what students *already know* about the content is one of the strongest indicators of how well they will learn new information relative to the content.

- Building Background Knowledge for Academic Achievement. Marzano, 2004.



## Key Idea

Language comprehension depends on background knowledge of the subject area. Before a read aloud, teachers should plan to explicitly build students' background knowledge as it relates to key elements of the setting, plot, or character development.

Teachers can ask themselves these questions to help elicit the information they should preview before reading:

- What do students need to know about the characters to understand their actions and motivations?
  - *Example: In the book One Green Apple by Eve Bunting, the main character, Farah, is an immigrant. Students must have knowledge of what it means to be an immigrant if they are to understand the evolution of Farah's emotions from feeling lonely to feeling included.*
- What do students need to know about the setting to comprehend the meaning of the plot?
  - *Example: In the book The Legend of the Bluebonnet by Tomie dePaola, the Comanche tribe is in the middle of a drought. Students must have knowledge of what a drought means and how it affects where the Native Americans live.*
- What do students need to know about the genre and text structure to comprehend the meaning of the plot?
  - *Example: In the book Pink and Say by Patricia Polacco, two Civil War soldiers from different backgrounds befriend each other. Students must understand that this text is historical fiction, meaning that the setting is real but some events are not.*
  - *Example: In the book Rainforest Babies by Kathy Darling, the author organizes the book by topic, with each animal getting its own page(s). There is no table of contents and students must use page headers to locate information on specific animals.*

## Discussion

- Think about your classroom library. Which texts require background knowledge? What type of background knowledge do they require?

# Strategies for Building Background Knowledge

Once teachers have identified the type of background knowledge students need to comprehend the text, they must plan for how to build students' context and help them connect new information to what they already know.

## **Picture Walk/Previewing the Text**

Show students the book and slowly flip through the pages. Ask students to pay attention to the illustrations and think about what they see. Teachers can even read selected lines from the text that are important or share critical information about the character or setting. Students can make predictions about the text based on the Picture Walk.

## **Image, Artifact, or Video Viewing**

Teachers can show images, bring in real artifacts, or show a video to help build students' background knowledge. For *The Legend of the Bluebonnet*, the teacher could show pictures or a video of a drought to help students understand how droughts affect the people and animals who live in the area. Then, the teacher can point out the illustrations in the text that show the drought.

## **Manipulatives and Predictions**

Teachers can bring in various objects that relate to the story. Give students time to look at the manipulatives and consider how they may fit together. Then, students make predictions about what the story is about based on the manipulatives. This strategy can be paired with images, artifacts, and video as well.

## **Concept Definition Mapping and KWL Charts**

Teachers choose an important word or theme from the story and write it in the middle of a piece of paper or board. Students share what they think of when they hear that word or theme. Teachers can also use a KWL chart to prompt students to consider their background knowledge, consider what questions they have, then track their learning as they read the text.

## **Explicit Mini-Lesson**

Teachers can also explicitly introduce new information through explanation or demonstration.

- Strategies borrowed from the Sheltered Immersion Observation Protocol (SIOP).

## **Discussion**

- What additional strategies do you use to build students' background knowledge? How could you use these strategies prior to reading aloud?

## Practice: Building Background Knowledge for Read Alouds

Using *Martin's Big Words* or *Lon Po Po*, determine what background knowledge to activate or pre-teach so that students can comprehend as they listen. Use the questions below as guidance. Then, choose a strategy for building background knowledge.

- What do students need to know about the characters to understand their actions and motivations?
- What do students need to know about the setting to comprehend the meaning of the plot?
- What do students need to know about the genre and text structure to comprehend the meaning of the plot?
- What else might students need to know?

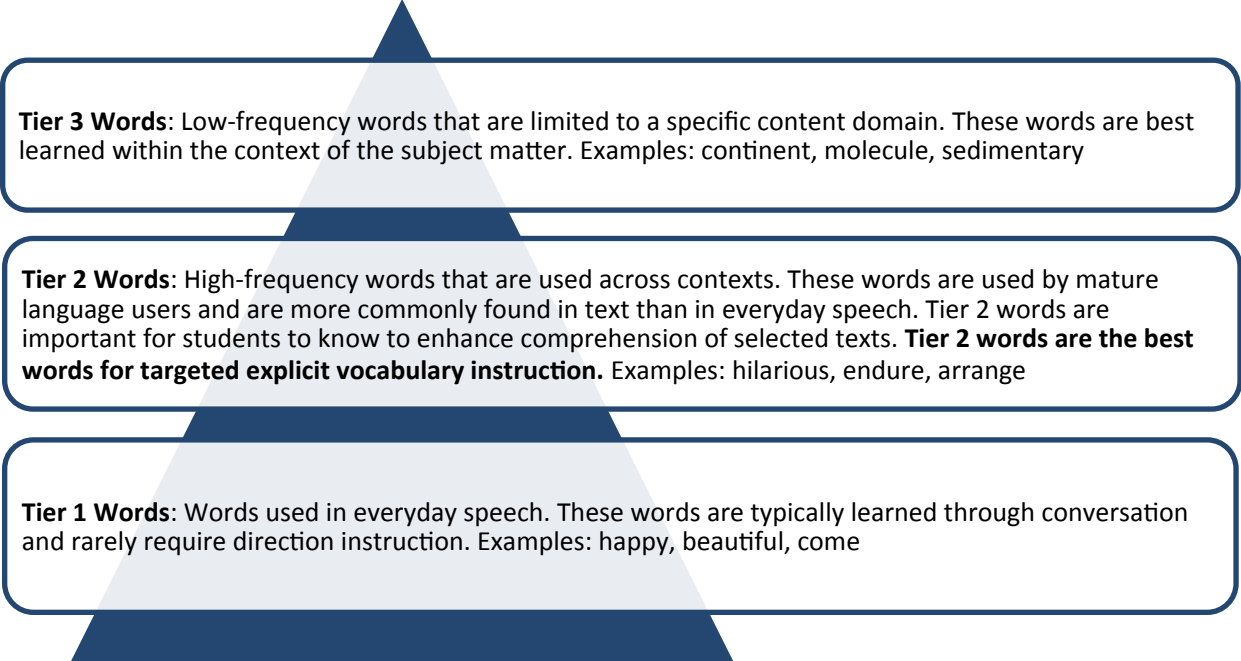
**Strategy:**

# Promoting Knowledge of Vocabulary during Read Alouds

Reading aloud to children provides a powerful context for word learning (Biemiller & Boote, 2006; Bravo, Hiebert, & Pearson, 2007). Books chosen for read alouds are typically engaging, thus increasing both children's motivation and attention (Fisher, Flood, Lapp, & Frey, 2004) and the likelihood that novel words will be learned (Bloom, 2000). As teachers read, they draw students' attention to Tier 2 words - the "high frequency words of mature language users" (Beck, McKeown, & Kucan, 2002, p. 8). These words, which "can have a powerful effect on verbal functioning" (Beck et al., 2002, p. 8), are less common in everyday conversation, but appear with high frequency in written language, making them ideal for instruction during read alouds.

- *Vocabulary Development During Read Alouds: Primary Practices*. Kindle, 2009.

## Understanding Vocabulary Tiers



**Tier 3 Words:** Low-frequency words that are limited to a specific content domain. These words are best learned within the context of the subject matter. Examples: continent, molecule, sedimentary

**Tier 2 Words:** High-frequency words that are used across contexts. These words are used by mature language users and are more commonly found in text than in everyday speech. Tier 2 words are important for students to know to enhance comprehension of selected texts. **Tier 2 words are the best words for targeted explicit vocabulary instruction.** Examples: hilarious, endure, arrange

**Tier 1 Words:** Words used in everyday speech. These words are typically learned through conversation and rarely require direction instruction. Examples: happy, beautiful, come

- Adapted from *Bringing Words to Life* by Beck, McKeown, & Kucan, 2002.

## Examples of Tier 2 Words from Trade Books

Story	Vocabulary
<i>Bear Snores On</i> By Karma Wilson	lair divvy fret
<i>Where the Wild Things Are</i> By Maurice Sendak	mischievous gnashed rumpus
<i>The Kissing Hand</i> By Audrey Penn	nuzzled palm scamper

### Discussion

In a group, brainstorm examples of Tier 1, Tier 2, and Tier 3 words. Feel free to use words that appeared in texts you've recently read aloud to your students.

Tier 1 Words: \_\_\_\_\_

Tier 2 Words: \_\_\_\_\_

Tier 3 Words: \_\_\_\_\_

### Important Note on Vocabulary Instruction

A common misconception is that vocabulary must be taught from a list, but research shows that this method of vocabulary instruction is not as effective as students learning vocabulary in context.

The Tennessee Academic Standards do not include a vocabulary list. All TNReady vocabulary items will require students to use context to determine the meaning of words. Therefore, it is even more important that teachers present students with contextualized vocabulary words. Strategies for inferring the definition of new vocabulary words should be modeled within context.

# Selecting Vocabulary Words to Teach During Read Alouds

**Step 1:** Read through the text and list all of the words that seem likely to be unfamiliar to students. Focus on the Tier 2 words.

**Step 2:** Note which words are most significant to comprehending the plot or meaning of the text.

**Step 3:** Note which words have meanings that are easily conveyed by the story's context, such as through illustrations or dialogue.

**Step 4:** Note which words have meanings that students can identify with, that are likely to appear in other texts, or that students are likely to hear in other settings, such as during a conversation with a parent or while watching a movie.

**Step 5:** Choose two-four vocabulary words from your list that are significant to comprehending the plot or meaning of the text, with meanings that aren't easily conveyed through context, and that students can identify with and will encounter in other settings.

**Step 6:** Create "kid-friendly" definitions for the chosen words, determine gestures that emphasize the words' meaning, and find visuals that supports students' understanding of the words' meaning. Teach the words and definitions explicitly before reading the text.

Teachers should support students in understanding the meaning of all words in a text, including those they don't select to teach explicitly. Below is a list of strategies teachers can use to address unknown words in the moment while reading:

- Point to the illustration while reading the unknown word
- After reading the unknown word, provide a synonym (e.g. "He was jubilant – he was really happy – when he finally saw the sun rise.")
- Paraphrase the word meaning after reading the sentence (e.g. "He dipped the oar in the water and started paddling...An oar is a stick with a wide part at the end. Like a fish's fin, it helps people move and steer their boats.")



## Example: Selecting Vocabulary Words to Teach During Read Alouds

<i>Click Click Moo Cows That Type</i> by Doreen Cronin				
<b>Tier 2 Word</b>	Is this word significant to comprehending the plot or meaning of the text?	Is the meaning of this word conveyed through context?	Can students identify with the meaning of this word?	Are students likely to encounter this word in other settings?
Strike	The cows' and hens' strike is a major plot element, and the source of much of the humor of this story.	Some students might be able to infer the meaning based on the signs the animals type.	Students have likely refused to do a task before (e.g. homework, clean their room).	Strike is a word they may encounter during Social Studies lessons.
Furious	It's important to understand that Farmer Brown is upset about the strike.	There is a small illustration that shows Farmer Brown with his hands in the air; students may or may not be able to infer word meaning based on this picture.	Students have definitely been mad or upset about something before!	Furious is a common Tier II word that students are likely to hear in a range of settings.
Typewriter	The animals share messages with Farmer Brown using the typewriter. The title of the book references the sound that the keys make (click clack)	The typewriter appears in many illustrations throughout the book, and is easily visible. It would be easy to point out.	Students are familiar with computers and could understand that a typewriter is like a computer.	Students are not likely to see or talk about a typewriter. Computers are prevalent.
Electric blanket	The animals want electric blankets and go on strike when they don't get them.	Electric blankets appear in an illustration. It can also be easily inferred that an electric blanket provides warmth, given the context of the cows' request.	Electric blankets are fairly outdated. But students have all likely been cold before and wanted a regular blanket.	Electric blankets are not common and are less likely to appear in other settings.
Impatient	The animals get impatient with Farmer Brown when he doesn't give them electric blankets.	There is no clear illustration depicting this word or additional supporting context.	Students have all wanted something and not gotten it as quickly as they wanted!	Impatient is a common Tier II word that students are likely to hear in a range of settings.
Ultimatum	Farmer Brown gives the animals an ultimatum.	There is no clear illustration depicting this word or additional supporting context.	An ultimatum is a tricky concept, especially for young children.	Students are less likely to encounter this word in other settings.

- Which of these vocabulary words would you choose to teach explicitly? Why?
- How will you support students in understanding the meaning of the words you don't choose to teach explicitly?

## Practice: Selecting Vocabulary Words to Teach During Read Alouds

With a group, read *Martin's Big Words* or *Lon Po Po*. Complete the steps for selecting vocabulary words, using the chart below. As a group, decide which two to four words to teach explicitly. Then, decide how you'll teach the meaning of the other vocabulary words in the moment while reading (e.g. point to illustration, provide synonym).

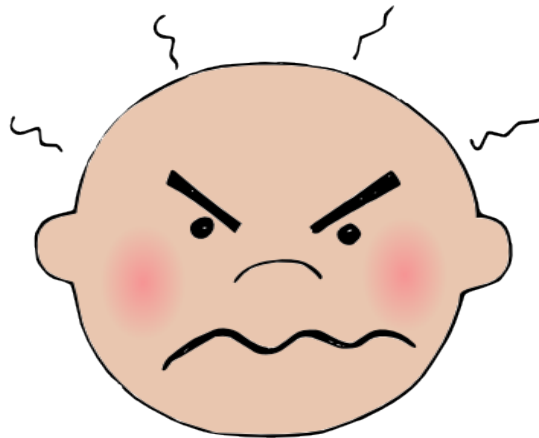
<b>Tier 2 Word</b>	Is this word significant to comprehending the plot or meaning of the text?	Is the meaning of this word conveyed through context?	Can students identify with the meaning of this word?	Are students likely to encounter this word in other settings?

## Vocabulary Routine for Engagement

- Say the word, teach pronunciation.
- Class repeats the word.
- Display the word with a visual, read the word, and say the definition using a complete sentence.
- Have the class say the word and repeat the definition.
- Use the word in a sentence: the context of the sentence should be something students know and can connect with.
- Add a gesture to the definition, and repeat the definition with the gesture.
- Students repeat the definition with the gesture.
- Have student partners take turns teaching the word to each other and using the word in a sentence they create.
- Explain how the word will be used in the text, either by reading the sentence in which it appears or explaining the context in which it appears.

- Adapted from *50 Nifty Speaking and Listening Activities* by Judi Dodson.

# furious



**Furious** means being really mad or angry.

I was **furious** when I dropped my lunch tray on the floor.

Farmer Brown was **furious**.

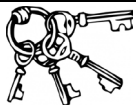


## Practice: Vocabulary Routine for Engagement

With a partner, practice using the Vocabulary Routine for Engagement for one of your selected words from *Martin's Big Words* or *Lon Po Po*.

Word:	Visual:
Student-friendly definition:	
Sentence (using familiar context):	
How the word is used in the book:	

Gesture: \_\_\_\_\_



### Key Idea

The more thoroughly students learn high-utility words, the better they will be able to comprehend text that contains those words or similar ones.

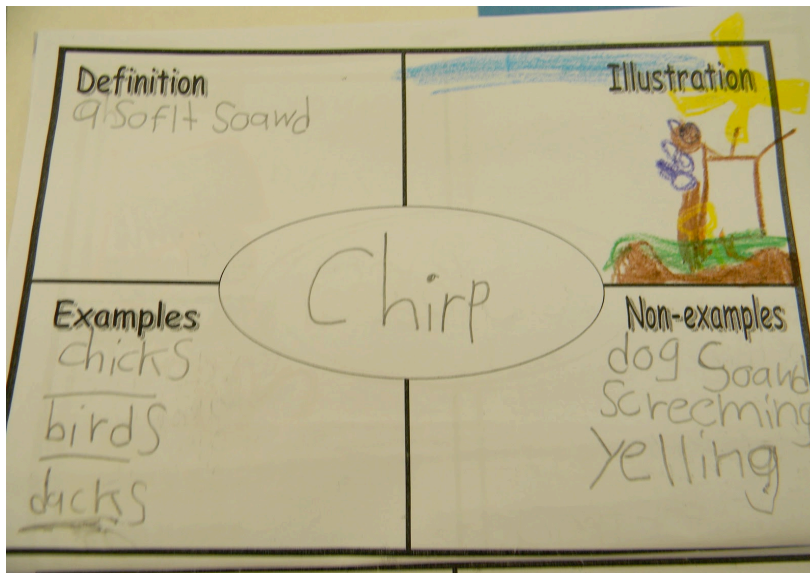
- The National Reading Panel

# Writing and Vocabulary

Teachers can extend students' knowledge of vocabulary after the read aloud, revisiting vocabulary words and reinforcing them through writing activities. Below are some examples:

## Frayer Model

This graphic organizer helps students learn new vocabulary by defining the term in their own words and by contextualizing it through authentic examples and visual representation.



## Comic Strip

Students retell part of the story by creating a comic strip, including captions or by narrating their comic to the teacher or peer. Teachers can require students to use key vocabulary words in their comic strips, reinforcing the word meaning and situating it within the context of the story. This is an especially strong strategy if the vocabulary appears as dialogue.

# Understanding Language Structures during Read Alouds

Listening comprehension requires students to understand language structures the same way reading comprehension does. Students must understand phonology, syntax, semantics, and text structure.

## Phonology

What phonological patterns and differences do students hear with phonemes, sentence types, and word endings?

On a phonological level, active listeners should be able to:

- Distinguish between the phonemes of the language. For example, a child should be able to hear the difference between /hat/ and /fat/
- Use intonation (the rising and falling of pitch) to determine if a statement is a declaration, question, or a command
- Recognize the stress patterns of words, especially as they relate to pronunciation
- Discern junctures that identify where a word ends and another begins

## Syntax

What understandings of word and sentence structure do students recognize?

On a syntactic level, active listeners should be able to:

- Recognize paraphrase
- Disambiguate (i.e. discern the correct meaning of multiple-meaning words)
- Recognize cues regarding word form/class

## Semantics

What do students know about word meaning and word relationships?

On the semantic level, active listeners should be able to:

- Understand the meaning of words
- Understand how the meaning of words relate to one another

## Text Structure

Do students understand the text structure and how it works?

In terms of text structures, active listeners should be able to:

- Identify predictable structures, such as rhyme and repetition

## Example: Analyzing Language Structures in a Read Aloud

The better teachers understand the listening and language demands of a text, the better they can support students in recognizing language features and comprehending the text.

Characteristics of Active Listeners <i>Bear Snores On</i> by Karma Wilson				
<b>Phonology</b>	Distinguish between the phonemes of the language	Use intonation (the rising and falling of pitch) to determine if a statement is a declaration, question, or a command	Recognize the stress patterns of words, especially as they relate to pronunciation	Discern junctures that identify where a word ends and another begins
Text-Based Examples	A child should be able to hear the difference between /itty/ and /bitty/.	A child should easily hear the difference between "The bear snores on." and "The bear wakes up!"	A child should easily hear "SLEEP-ing" not "sleep-ING."	A child should easily hear the different words and pauses in "We can pop more corn" instead of hearing "popcorn."
<b>Syntax</b>	Recognize paraphrase	Disambiguate	Recognize cues regarding word form/class	
Text-Based Examples	A child should recognize "too damp, too dank, too dark" is not a complete sentence but mouse's paraphrase of his surroundings.	A child should be able to hear the difference between "he spins tall tales through the blustery night" and know that "tales" means telling stories, not animals' tails	A child should be able to hear the difference between "bear <u>snores</u> on" and "his friends <u>snore</u> on"	
<b>Semantics and Text Structure</b>	Understand the meaning of words and how they relate to one another		Identify predictable structures	
Text-Based Examples	Snores, sleeping, sleeps, slumbering Tweet, titter, chat, chitter		Rhyme and rhythm Alliteration and repetition	

# Practice: Analyzing Language Structure in a Read Aloud

Working in groups, analyze *Martin's Big Words* or *Lon Po Po*. Complete the chart below and share your findings with the group.

Characteristics of Active Listeners				
<b>Phonology</b>	Distinguish between the phonemes of the language	Use intonation (the rising and falling of pitch) to determine if a statement is a declaration, question, or a command	Recognize the stress patterns of words, especially as they relate to pronunciation	Discern junctures that identify where a word ends and another begins
Text-Based Examples				
<b>Syntax</b>	Recognize paraphrase	Disambiguate	Recognize cues regarding word form/class	
Text-Based Examples				
<b>Semantics and Text Structure</b>	Understand the meaning of words and how they relate to one another		Identify predictable structures	
Text-Based Examples				



# Supporting Students' Language Comprehension through Prosodic Reading

## What is Prosody?

- Prosody is the defining feature of expressive reading.
- Prosody includes the timing, phrasing, emphasis, and intonation that speakers use to help convey aspects of meaning and to make their speech lively.
- Prosody conveys emotions, highlights important information, demonstrates grammatical structure, and influences general memorability of the text.
- One of the challenges of oral reading is adding back the prosodic cues that are largely absent from written language.

- Mira and Schwanenflugel, 2013.

## Why is Prosody Important?

Young children are more reliant than adults on prosodic language with regard to meaning making. The various aspects of prosody working in concert can have robust effects on a listener's comprehension.

- Schreiber, 1987.

There are strong links between oral reading prosody and general reading achievement. After comparing students' reading prosody in first and second grade with their reading comprehension at the end of third grade, researchers concluded that early acquisition of an adult-like intonation contour predicted better comprehension.

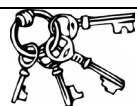
- Miller and Schwanenflugel, 2008.

## Practice:

Say the phrase, "What did you do?" as many different ways as you can. Note how the meaning of the phrase changes based on how you say it, and how your understanding of the context surrounding that question also changes.

## Example: Supporting Students' Language Comprehension through Prosodic Reading

When reading aloud with prosody, teachers should:	Examples from <i>Bear Snores On</i>
Enunciate phonemes clearly, especially with rhymes and other similar-sounding words	"I've brought honey-nuts," Badger says with a <b>grin</b> . "Let's divvy them up, Cozy down...and <b>dig in!</b> "
Enunciate words clearly, alerting students when one word ends and the other begins	We can pop more corn! We can brew more tea!
Place the correct stress on words, helping students recognize word parts and learn correct pronunciation	Two glowing eyes Sneak-peek in the den.
Read with intonation to alert students of sentence type (e.g. declarative vs. interrogative)	A badger scuttles by, Sniff-snuffs at the air. "I smell yummy-yums! Perhaps we can share?"
Vary volume of speech to signal exclamations and emphasis	And the bear <b>WAKES UP!</b> <b>BEAR GNARLS</b> And he <b>SNARLS</b> .
Vary pace of speech to indicate rising and falling action	The cold winds howl And the night sounds growl. But the bear snores on.
Vary tone/pitch to signal changes in speaker	Mouse cries, "Who's there?" And a hare hops in. "Ho, Mouse!" says Hare. "Long time, no see!"



### Key Idea

Changing prosody can change the meaning of a word or sentence. Reading with prosody not only engages students in listening, it supports their understanding of language structures and their overall listening comprehension.

## Practice: Supporting Students' Language Comprehension through Prosodic Reading

Re-read *Lon Po Po* or *Martin's Big Words*. Find examples where reading with prosody directly contributes to students' comprehension of words, phrases, or plot. Practice reading aloud the examples with prosody. Use the chart below to organize your findings.

When reading aloud with prosody, teachers should:	Examples from _____
Enunciate phonemes clearly, especially with rhymes and other similar-sounding words	
Enunciate words clearly, alerting students when one word ends and the other begins	
Place the correct stress on words, helping students recognize word parts and learn correct pronunciation	
Read with intonation to alert students of sentence type (e.g. declarative vs. interrogative)	
Vary volume of speech to signal exclamations and emphasis	
Vary pace of speech to indicate rising and falling action	
Vary tone/pitch to signal changes in speaker	

# Listening Comprehension and Technology

There are many digital resources that teachers can access for listening comprehension. Some examples of free resources include:

## 1. Podcasts

- Wild Animal Chronicles: [www.nationalgeographic.com/podcasts](http://www.nationalgeographic.com/podcasts)
- Children's Fun Storytime: <https://itunes.apple.com/us/podcast/childrens-fun-storytime-podcast/id207671602?mt=2>
- Poem of the Day:  
<http://www.poetryfoundation.org/features/audio?show=Poem%20of%20the%20Day>

## 2. Digital Audiobooks

- Storyline Online: <http://www.storylineonline.net/>
- Storynory: <http://www.storynory.com/>
- Meegenius: <http://www.meegenius.com/store/books/free/>

## 3. Digital Music Sites

- Brett Campbell: <http://www.sonicbids.com/band/brettcampbell/audio/>
- Math Songs: <http://www.kidsknowit.com/educational-songs/index.php?topic=Math>
- Kididdles: <http://www.kididdles.com/lyrics/allsongs.htm>

## 4. Local Television and Radio Websites

# Developing Verbal Reasoning: Questioning and Discussion during Read Alouds

Developing comprehension strategies through reading aloud requires planning and setting up an environment of thinking, listening, and discussion...modeling connections, asking questions, encouraging discussion, and using literature to prompt personal storytelling.

- Gold & Gibson, 2001.

Through the process of asking genuine questions, literature discussions become more than an activity in which the reader is responsible for finding a specific predetermined meaning of the text; the questions invite students to interpret the text by illustrating the meaning and acknowledging the valuable insights each reader brings to the text.

- Lloyd, S. 2015.



## Key Idea

Asking questions during a read aloud prompts students to think critically about the text. Giving students an opportunity to share their responses, and to hear the responses of others, gives students' practice in expressing ideas and builds their verbal reasoning.

## Discussion

- How would you explain this Key Idea in your own words?
- How are questioning and discussion connected?
- How have you seen questioning and discussion increase student learning in your classroom?

# Text-Dependent vs. Text-Inspired Questions

The Tennessee Academic Standards for English Language Arts strongly focus on students gathering evidence, knowledge, and insight from what they read. Indeed, nearly all of the Reading Standards in each grade *require* text-dependent analysis; accordingly, aligned curriculum materials should have a similar percentage of text-dependent questions.

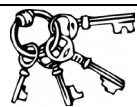
As the name suggests, a text-dependent question specifically asks a question that can only be answered by referring explicitly back to the text being read. It does not rely on any particular background information extraneous to the text nor depend on students having other experiences or knowledge; instead it privileges the text itself and what students can extract from what is before them.

- *Guide to Creating Text-Dependent Questions*. Retrieved from [www.TNCore.org](http://www.TNCore.org).

Type of Question	Description	Purpose	Example	When to Ask
Text-Dependent	A question that requires students to exclusively use evidence from the text	To build students' close reading and textual analysis skill	"In what sequence did the animals arrive to Bear's cave?"	During and after reading and rereadings to support comprehension
Text-Inspired	A question that invites students to apply their own background knowledge and opinion, in addition to evidence from the text	To help students reflect on and make connections to the text	"Do you think the other animals were surprised by the bear's reaction after he woke up? Why?"	Most effective after students have become familiar with the text

## Discussion

- How would you explain the difference between text-dependent and text-inspired questions?
- Why are both types of questions important for student learning?



### Key Idea

Both text-dependent and text-inspired questions support students' comprehension, and balance is key. Regardless of the question type, students should be pushed to cite evidence from the text to answer the question or support their claim.

# Asking Questions During and After Read Alouds

No matter which types of questions you ask, be on the lookout for opportunities for questions that maximize interactions with children and increase talk about the book. Question types include **factual, inferential, opinion, text-to-self, text-to-text, prediction, authorship, and vocabulary.**

- *The Power of Planning Effective Read Alouds*. National Association for the Education of Young Children, 2008.

## Examples from *Bear Snores On*

Questions to Ask During Read Alouds			
Question Type	Question Purpose	Example	Text-Dependent or Text-Inspired? What Text Evidence Can Students Use to Support Their Answer?
Factual	Ask for details about the text	What is the setting of the story?	Text-dependent; "In a cave in the woods...through the long, cold winter"
Inferential	Push students to make inferences based on textual-evidence	Why do all the animals go into Bear's cave?	Text-inspired; the animals are cold – the text tells us that it is snowing and the wind is howling; the animals are hungry – they bring and cook food
Opinion	Invite children to share what they think about the text	What do you think about the animals having a party while Bear is sleeping? Would you join the party or not? Why?	Text-inspired; I would join the party because it looked fun – the animals had food, they talked, and the illustration shows them dancing
Text-to-Self	Connect the text to the child's own experience	How would you feel if you woke up and people around you were having a party?	Text-inspired; students will rely on their background knowledge and opinions to answer this question
Text-to-Text	Connect the text to another text the child has read	How is this book like <i>Paddington Bear</i> that we read yesterday?	Text-dependent; in both texts the bear is an important character; the bear has human traits (e.g. he talks)
Prediction	Ask children to predict what might happen next in the text or if the text were extended	What do you think Bear will do next since he just growled and grumbled?	Text-inspired; he will chase the animals out of his cave because they woke him up
Authorship	Ask children to think like the author	How would you make Bear act after he wakes up if you were the author?	Text-inspired; students will rely on their opinions and ideas to answer this question
Vocabulary	Ask children what they know about a word from the text	What do you think the word "fret" means in this story?	Text-inspired; "fret" means to be sad – Bear is sad when he realizes the animals had fun without him; "he whimpers and he moans, he wails and he groans"

## Discussion

Review the eight types of questions listed on the previous page. In a group, discuss the following questions:

- How do students use text evidence in different ways to answer these different types of questions?
- How can teachers appropriately sequence and scaffold these question types to help students deepen their comprehension of a text?
- How do the different question types work together to support students' holistic comprehension of a text?



# Practice: Asking Questions During and After Read Alouds

Use *Martin's Big Words* or *Lon Po Po* to plan specific questions you could ask during and after a read aloud. With a partner, complete the chart below.

Questions to Ask During Read Alouds			
Question Type	Question Purpose	Example	Text-Dependent or Text-Inspired? What Text Evidence Can Students Use to Support Their Answer?
Factual	Ask for details about the text		
Inferential	Push students to make inferences based on textual evidence		
Opinion	Invite children to share what they think about the text		
Text-to-self	Connect the text to the child's own experience		
Text-to-text	Connect the text to another text the child has read		
Prediction	Ask children to predict what might happen next in the text or if the text were extended		
Authorship	Ask children to think like the author		
Vocabulary	Ask children what they know about a word from the text		

# Resources for Crafting Questions

## DOK Question Stems

<p><b>DOK 1</b></p> <ul style="list-style-type: none"> <li>• Can you recall ____?</li> <li>• When did ____ happen?</li> <li>• Who was ____?</li> <li>• How can you recognize ____?</li> <li>• What is ____?</li> <li>• How can you find the meaning of ____?</li> <li>• Can you recall ____?</li> <li>• Can you select ____?</li> <li>• How would you write ____?</li> <li>• What might you include on a list about ____?</li> <li>• Who discovered ____?</li> <li>• What is the formula for ____?</li> <li>• Can you identify ____?</li> <li>• How would you describe ____?</li> </ul>	<p><b>DOK 2</b></p> <ul style="list-style-type: none"> <li>• Can you explain how ____ affected ____?</li> <li>• How would you apply what you learned to develop ____?</li> <li>• How would you compare ____?</li> <li>• Contrast ____?</li> <li>• How would you classify ____?</li> <li>• How are ____ alike? Different?</li> <li>• How would you classify the type of ____?</li> <li>• What can you say about ____?</li> <li>• How would you summarize ____?</li> <li>• How would you summarize ____?</li> <li>• What steps are needed to edit ____?</li> <li>• When would you use an outline to ____?</li> <li>• How would you estimate ____?</li> <li>• How could you organize ____?</li> <li>• What would you use to classify ____?</li> <li>• What do you notice about ____?</li> </ul>
<p><b>DOK 3</b></p> <ul style="list-style-type: none"> <li>• How is ____ related to ____?</li> <li>• What conclusions can you draw ____?</li> <li>• How would you adapt ____ to create a different ____?</li> <li>• How would you test ____?</li> <li>• Can you predict the outcome if ____?</li> <li>• What is the best answer? Why?</li> <li>• What conclusion can be drawn from these three texts?</li> <li>• What is your interpretation of this text? Support your rationale.</li> <li>• How would you describe the sequence of ____?</li> <li>• What facts would you select to support ____?</li> <li>• Can you elaborate on the reason ____?</li> <li>• What would happen if ____?</li> <li>• Can you formulate a theory for ____?</li> <li>• How would you test ____?</li> <li>• Can you elaborate on the reason ____?</li> </ul>	<p><b>DOK 4</b></p> <ul style="list-style-type: none"> <li>• Write a thesis, drawing conclusions from multiple sources.</li> <li>• Design and conduct an experiment. Gather information to develop alternative explanations for the results of an experiment.</li> <li>• Write a research paper on a topic.</li> <li>• Apply information from one text to another text to develop a persuasive argument.</li> <li>• What information can you gather to support your idea about ____?</li> <li>• DOK 4 would most likely be the writing of a research paper or applying information from one text to another text to develop a persuasive argument.</li> <li>• DOK 4 requires time for extended thinking.</li> </ul>

From Depth of Knowledge – Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom Developed by Dr. Norman Webb and Flip Chart developed by Myra Collins

## Sample Question Stems Based on Revised Bloom's Taxonomy

Remember	Understand	Apply
<p>Who?</p> <p>Where?</p> <p>Which one?</p> <p>What?</p> <p>How?</p> <p>Why?</p> <p>How much?</p> <p>How many?</p> <p>When?</p> <p>What does it mean?</p> <p>What happened after?</p> <p>What is the best one?</p> <p>Can you name all the ...?</p> <p>Who spoke to ...?</p> <p>Which is true or false?</p>	<p>What does this mean?</p> <p>Which are the facts?</p> <p>State in your own words.</p> <p>Is this the same as ...?</p> <p>Give an example.</p> <p>Select the best definition.</p> <p>Condense this paragraph.</p> <p>What would happen if ...?</p> <p>Explain why . . .</p> <p>What expectations are there?</p> <p>Read the graph (table).</p> <p>What are they saying?</p> <p>This represents . . .</p> <p>What seems to be ...?</p> <p>Is it valid that ...?</p> <p>What seems likely?</p> <p>Show in a graph, table.</p> <p>Which statements support ...?</p> <p>What restrictions would you add?</p> <p>Outline . . .</p> <p>What could have happened next?</p> <p>Can you clarify. . . ?</p> <p>Can you illustrate . . . ?</p> <p>Does everyone think in the way that ... does?</p>	<p>Predict what would happen if ...</p> <p>Choose the best statements that apply.</p> <p>Judge the effects of ...</p> <p>What would result ...?</p> <p>Tell what would happen if ...</p> <p>Tell how, when, where, why.</p> <p>Tell how much change there would be if ...</p> <p>Identify the results of ...</p> <p>Write in your own words ...</p> <p>How would you explain ...?</p> <p>Write a brief outline ...</p> <p>What do you think could have happened next?</p> <p>Who do you think...?</p> <p>What was the main idea ...?</p> <p>Clarify why ...</p> <p>Illustrate the ...</p> <p>Does everyone act in the way that ... does?</p> <p>Draw a story map.</p> <p>Explain why a character acted in the way that he did.</p> <p>Do you know of another instance where ...?</p> <p>Can you group by characteristics such as ...?</p> <p>Which factors would you change if ...?</p> <p>What questions would you ask of ...?</p> <p>From the information given, can you develop a set of instructions about ...?</p>

Adapted from the following sources: Pohl, Michael. *Learning to Think, Thinking to Learn: Models and Strategies to Develop a Classroom Culture of Thinking*. Cheltenham, Vic.: Hawker Brownlow. 2000; Tarlington, Denise. "Bloom's Revised Taxonomy." Powerpoint; [www.center.iupui.edu/ctl/idd/docs/Bloom\\_revised021.doc](http://www.center.iupui.edu/ctl/idd/docs/Bloom_revised021.doc), February 8, 2006; [http://eprint.sdsu.edu/J03OJ/miles/Bloomtaxonomy\(revised\)1.htm](http://eprint.sdsu.edu/J03OJ/miles/Bloomtaxonomy(revised)1.htm)

## Sample Question Stems Based on Revised Bloom's Taxonomy

Analyze	Evaluate	Create
<p>What is the function of ...?</p> <p>What's fact? Opinion?</p> <p>What assumptions ...?</p> <p>What statement is relevant?</p> <p>What motive is there?</p> <p>What conclusions?</p> <p>What does the author believe?</p> <p>What does the author assume?</p> <p>State the point of view of ...</p> <p>What ideas apply?</p> <p>What ideas justify the conclusion?</p> <p>What's the relationship between?</p> <p>The least essential statements are ...</p> <p>What's the main idea? Theme?</p> <p>What literary form is used?</p> <p>What persuasive technique is used?</p> <p>Determine the point of view, bias, values, or intent underlying presented material.</p> <p>Which events could not have happened?</p> <p>If ... happened, what might the ending have been?</p> <p>How is ... similar to ...?</p> <p>What do you see as other possible outcomes?</p> <p>Why did ... changes occur?</p> <p>Can you explain what must have happened when ...?</p> <p>What were some of the motives behind ...?</p> <p>What was the turning point?</p> <p>What are some of the problems of ...?</p> <p>Can you distinguish between ...?</p>	<p>What fallacies, consistencies, inconsistencies appear?</p> <p>Which is more important, moral, better, logical, valid, appropriate?</p> <p>Find the errors.</p> <p>Is there a better solution to ...?</p> <p>Judge the value of ...</p> <p>What do you think about ...?</p> <p>Can you defend your position about ...?</p> <p>Do you think ... is a good or bad thing?</p> <p>How would you have handled ...?</p> <p>What changes to ... would you recommend?</p> <p>Do you believe ...?</p> <p>How would you feel if ...?</p> <p>How effective are ...?</p> <p>What are the consequences of ...?</p> <p>What influence will ... have on our lives?</p> <p>What are the pros and cons of ...?</p> <p>Why is ... of value?</p> <p>What are the alternatives?</p> <p>Who will gain and who will lose?</p>	<p>Can you design a ... to ...?</p> <p>Can you see a possible solution to ...?</p> <p>If you had access to all resources, how would you deal with ...?</p> <p>Why don't you devise your own way to ...?</p> <p>What would happen if?</p> <p>How many ways can you ...?</p> <p>Can you create new and unusual uses for ...?</p> <p>Can you develop a proposal which would ...?</p> <p>How would you test ...?</p> <p>Propose an alternative.</p> <p>How else would you ...?</p> <p>State a rule.</p>

Adapted from the following sources: Pohl, Michael. *Learning to Think, Thinking to Learn: Models and Strategies to Develop a Classroom Culture of Thinking*. Cheltenham, Vic.: Hawker Brownlow. 2000; Tarlington, Denise. "Bloom's Revised Taxonomy." Powerpoint; [www.center.iupui.edu/ctl/idd/docs/Bloom\\_revised021.doc](http://www.center.iupui.edu/ctl/idd/docs/Bloom_revised021.doc), February 8, 2006; [http://eprntice.sdsu.edu/J03OJ/miles/Bloomtaxonomy\(revised\)1.htm](http://eprntice.sdsu.edu/J03OJ/miles/Bloomtaxonomy(revised)1.htm)

# Developing Verbal Reasoning: Teacher Metacognition and Think Alouds

Reflective intelligence is increased through instruction that nurtures metacognition and develops strategies and attitudes that result in thoughtful thinking. But because metacognition occurs in one's head, the teacher must employ techniques to make thinking visible. Although direct, explicit teaching of a strategy is necessary, instruction must also include class discussions, peer interactions, and coaching, with the goal of students' self-regulation and independence.

- The Metacognitive Teaching Framework in Your Classroom, 2001.

## **Think-Alouds**

*Think-alouds have been described as "eavesdropping on someone's thinking." With this strategy, teachers verbalize aloud while reading a selection orally. Their verbalizations include describing things they're doing as they read to monitor their comprehension. The purpose of the think-aloud strategy is to model for students how skilled readers construct meaning from a text.*

## **How to Use Think-Alouds**

*Model your thinking out loud as you read. Do this at points in the text that may be confusing for students (new vocabulary, unusual sentence construction), when an important event or quote occurs, or when the plot or information is especially complex.*

*Model asking yourself questions that guide your comprehension, such as the ones listed below:*

- *What do I already know about this topic?*
- *What do I think I will learn about this topic?*
- *Do I understand what I just read?*
- *What more can I do to understand this?*
- *What is the main idea of what I just read?*
- *What new information did I learn?*
- *What questions do I have about the text right now?*

*Demonstrate how good readers monitor their understanding by rereading a sentence, reading ahead to clarify, looking for context clues, and noting text features to find information.*

*Students soon learn to offer answers to the questions as the teacher leads the think aloud. Give students opportunities to practice the technique, and offer structured feedback to students.*

- Modified from *Think Alouds*, published by Reading Rockets, 2012.  
Retrieved from [http://www.readingrockets.org/strategies/think\\_alouds](http://www.readingrockets.org/strategies/think_alouds)

# Think Aloud Sentence Frames

Teachers can model metacognition by using sentence frames that link to key comprehension strategies.

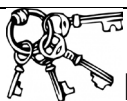
Strategy Think Aloud	Sentence Frame	Examples from <i>Bear Snores On</i>
Connecting Background Knowledge	I know that... I remember that... My background knowledge tells me...	"I know that bears hibernate in the winter. Thinking about the illustrations and the author's words, I bet that's what Bear is doing now."
Predicting	I predict... In the next part I wonder if... I think this is...	"I predict that if Bear wakes up he will be upset that other animals are in his cave."
Questioning	How/what/who/when did... A question I have right now is... Something I'm wondering about is...	"The animals in the cave are acting like friends. I wonder if they know each other already, and if they know the bear or not."
Visualizing	I see... I picture... I'm visualizing...	"I can picture all these animals getting warm by the fire while the cold wind howls outside."
Clarifying	I got confused when... I didn't expect... I'm not sure of...	"Wait a minute. On the last page Bear was roaring and growling. Now he's crying. I'm going to keep reading to see if I can figure out why his emotions changed so quickly."
Summarizing	I think this is mainly about... The most important idea is...	"Now I get it. The important thing to understand about Bear's feelings is that he's not upset about being woken up, he's upset that the other animals had fun without him."
Reflecting	I realized that... Earlier I thought ___, now I know ...	"Earlier I predicted that Bear would be upset that the other animals were in his home. Now I know that he enjoys their company and wants to have fun with them."
Making Connections: Text-to-self Text-to-text	This is like... This reminds me of... If it were me...	"This reminds me of the non-fiction book we read about bears where we learned about hibernation."
Vocabulary	I think this word means... ___ gives me clues about this word's meaning.	"Badger says with a grin"... "I think the word 'grin' means smile, because in this illustration Badger is smiling."

- Modified from [http://www.readingrockets.org/content/pdfs/thinkaloud\\_checklist.pdf](http://www.readingrockets.org/content/pdfs/thinkaloud_checklist.pdf)

## Practice: Planning Think Alouds

Using *Martin's Big Words* or *Lon Po Po*, plan moments to model metacognition by thinking aloud. Write down what you'll say and share how your think aloud will support students' comprehension of the text.

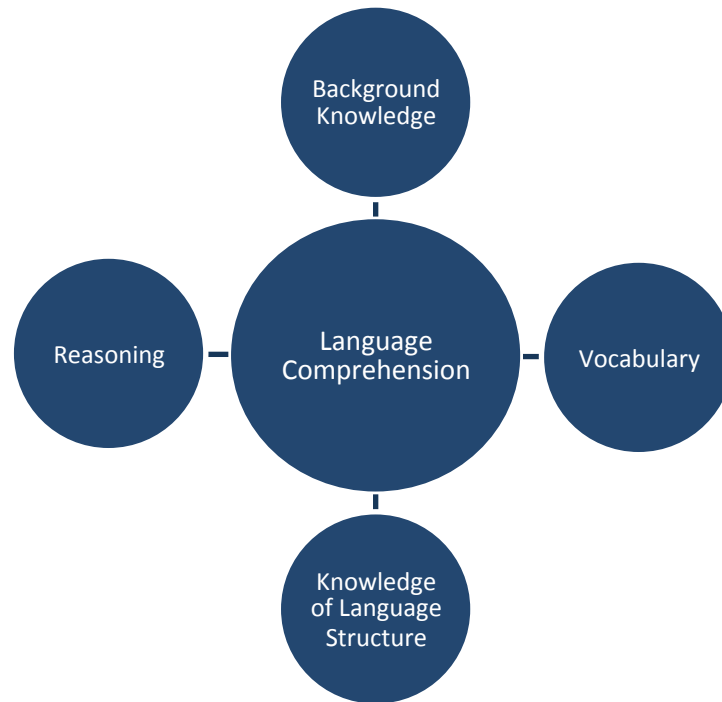
Strategy Think Aloud	Think Aloud Script	How will this Think Aloud Support Students' Comprehension?
Connecting Background Knowledge		
Predicting		
Questioning		
Visualizing		
Clarifying		
Summarizing		
Reflecting		
Making Connections: Text to self Text to text		
Vocabulary		



### Key Idea

Think alouds model for students how skilled readers construct meaning from a text. They support students' verbal reasoning and their overall comprehension.

## Summary: Supporting Students' Listening and Language Comprehension during Read Alouds



With a group, choose one of the four strands of Language Comprehension that we studied today. Create your own Concept Web, listing ideas and strategies related to the component you chose.





# **Module 2c**

## **Repeated Reading and Close Reading**

# Repeated Reading and Close Reading

## Objectives

- Understand the purpose of repeated reading and close reading within read alouds and how these strategies support listening and language comprehension.
- Review exemplar repeated reading and close reading lesson plans and collaborate on the creation of additional lesson plans, including culminating tasks.
- Review key learning from Module 2.

## Standards

Read alouds provide rich context for teaching a range of standards. This module most closely aligns with the following College and Career Readiness Anchor Standards for Reading:

### Key Ideas and Details

- **Read closely to determine what the text says explicitly and to make logical inferences from it;** cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

### Craft and Structure

- Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

## TEAM Alignment

- Standards and Objectives
- Presenting Instructional Content
- Lesson Structure and Pacing
- Teacher Content Knowledge
- Activities and Materials
- Questioning

# What is Close Reading?

The Tennessee Academic Standards for English Language Arts ask students to read closely and carefully. They require that this careful, close reading be done with texts of greater complexity than has generally been the case in America's public schools. Text complexity and the ability to rely on oneself to gain an accurate understanding of it are vital skills for the workplace, for college, and for citizenship.

- *Guide to Close Reading*. Retrieved from [www.TNCore.org](http://www.TNCore.org)

If we want to create close readers who are also independent readers, we need to explicitly teach how to approach a text to uncover its multiple layers of meaning. In the meantime, we'll need to come to class prepared to ask important text-dependent questions when students' own questioning fails to produce a deep understanding. College and career readiness begins in the primary grades. With the right tools, we can build close reading skills even with our youngest readers.

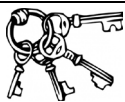
- Boyles, 2013.

## Discussion

Watch the classroom video clips of a close reading lesson. Then, fill in the chart below to answer the following question:

- What is close reading, and what does it look like in an early grades classroom?

Close Reading	
Looks like...	
Sounds like...	
Feels like...	



### Key Idea

Close reading is the thoughtful and critical process of analyzing a text. Close reading focuses on the significant details and patterns within a text to help students develop a deep and precise understanding of the text's form, craft, meanings, etc. Close reading is an important shift within the Tennessee Academic Standards.

## Analyze

Read one literary and one informational text lesson plan.<sup>1</sup> As you read, observe how these teachers utilize repeated close readings to gradually and intentionally deepen students' comprehension of a complex text. Jot down observations and wonderings and be prepared to discuss the questions below:

- How did teachers think about the first reading of the text? What were the main objectives of that day?
- What did you notice about how the teachers scaffolded questions and activities over subsequent readings? What do you think they considered when planning what to do on each day?

## Texts

- *The Spider and the Fly*, a literary text by Tony DiTerlizzi
- *Spiders*, an informational text by Gail Gibbons
- *The Great Kapok Tree*, a literacy text by Lynne Cherry
- *The Cloud Book*, an informational text by Tomie dePaola

<sup>1</sup> These lesson plans were authored, edited, and reviewed by teams of teachers, in collaboration with Student Achievement Partners. More lesson plans can be found at: <http://achievethecore.org/page/948/search-for-lessons-to-use-with-read-aloud-stories-early-elementary>

**Title/Author:** *The Spider and The Fly* by Mary Howitt with illustrations by Tony DiTerlizzi

**Suggested Time:** 5 Days (Five 20-minute sessions)

**Tennessee ELA/Literacy Standards:** RI.1.1, RI.1.2, RI.1.4, RI.1.6, RI.1.7; W.1.2, W.1.8; SL1.1, SL.1.2, SL.1.5; L.1.4

### **Lesson Objective:**

Students will listen to an illustrated narrative poem read aloud and use literacy skills (reading, writing, discussion and listening) to understand the central message of the poem.

## **Teacher Instructions**

### **Before the Lesson**

1. Read the Key Understandings and the Synopsis below. ***Please do not read this to the students.*** This is a description to help you prepare to teach the book and be clear about what you want your children to take away from the work.

### **Key Understandings**

How does the Spider trick the Fly into his web? The Spider uses flattery to trick the Fly into his web.

What is this story trying to teach us? Don't let yourself be tricked by sweet, flattering words.

### **Synopsis**

This is an illustrated version of the well-known poem about a cunning spider and a little fly. The Spider tries to lure the Fly into his web, promising interesting things to see, a comfortable bed, and treats from his pantry. At first the Fly, who has been told it is dangerous to go into the Spider's parlor, refuses. But when the Spider compliments her gauzy wings and brilliant eyes, she finds herself unable to resist and winds up trapped in his web. The final stanza of the poem reveals the author's intended "lesson from this tale": don't let yourself be tricked by sweet, flattering words. *Note: a full transcript of the poem is included in the resource section of this guide.*

2. Go to the last page of the lesson and review “What Makes this Read-Aloud Complex.” This was created for you as part of the lesson and will give you guidance about what the lesson writers saw as the sources of complexity or key access points for this book. You will of course evaluate text complexity with your own students in mind, and make adjustments to the lesson pacing and even the suggested activities and questions.
3. Read the entire book, adding your own insights to the understandings identified. Also note the stopping points for the text-inspired questions and activities. *Note: you may want to copy the questions, vocabulary words and activities onto sticky notes so they can be stuck to the right pages for each day’s questions and vocabulary work.*

## The Lesson – Questions, Activities, Vocabulary, and Tasks

The majority of questions, activities, and tasks should be based on the writing, pictures, and features unique to *The Spider and The Fly*. In other words, they should be text-specific. Questions that address text-to-self or text-to-world connections—or text-inspired questions or activities—should be held until after students have really gotten to know the book.

Questions, Activities, Vocabulary, and Tasks	Expected Outcome or Response (for each)
<p><b>FIRST READING:</b></p> <p>Pull the students together or use a document camera so that all can enjoy the illustrations. Read aloud the entire book with minimal interruption.</p> <p>Since the poem is written as a dialogue between the Spider and the Fly, consider pulling in a second reader and taking parts, or reading in two distinct voices.</p> <p>After the first reading, have each student create two stick puppets, one of Spider and one of Fly to use during subsequent readings.</p> <p><i>Note: you may want to make a couple of extra puppets while your students work, so absent students will have them to use in subsequent lessons.</i></p>	<p>The goal here is for students to enjoy the book—the words, the rhythm, and the pictures, and to experience it as a whole. Don't be concerned if students understand very little on this first reading. The idea is to give them some context and a sense of the characters and story before they dive into examining parts of the book more carefully.</p> <p>Puppets are downloadable from the author's website <a href="http://diterlizzi.com/home/project/the-spider-and-the-fly/">http://diterlizzi.com/home/project/the-spider-and-the-fly/</a>, or can be drawn by the students and attached to popsicle sticks.</p>
<p><b>SECOND READING:</b></p> <p>Be sure each student has two stick puppets, one of Spider and one of Fly.</p> <p><b>Reread page 1</b> (display on a document camera or projector if possible)</p>	

<p><b>QUESTIONS:</b> Who is talking here? Show me by holding up a puppet. How do you know Spider is talking?</p> <p>A parlor is like a living room in a house. What might a spider's "parlor" look like?</p> <p><b>Reread page 4</b> <b>QUESTIONS:</b> Who is talking here? Show me by holding up a puppet.</p> <p>How do you know Fly is talking?</p> <p>Ne'er is an old fashioned word. What word do you know that sounds like ne'er? Why do you think the bugs "ne'er come down again"?</p>	<p>Students respond by holding up the appropriate stick puppet based on who is speaking at the time. Help students to notice cues that signal a character is speaking like the phrase, "said the Spider to the Fly" and the quotation marks.</p> <p>Some students may make the connection that a spider's parlor is his web, others may draw on the fanciful illustrations in the book to answer. These ideas will be confirmed or revised as you reread the rest of the story.</p> <p>Students respond by holding up the Fly stick puppet and noting the words, "said the little Fly". Ask students to hold up their puppets to show who is speaking for the next few stanzas so that they come to understand the poem's structure (a dialogue that alternates between two characters).</p> <p>Ne'er sounds like "never." The bugs never come down again because the Spider eats (or captures) them.</p>
<p><b>ACTIVITY - Acting out the Passages</b> Establish the following pattern of activities to help students paraphrase the poem (repeat after each exchange between Spider and Fly):</p> <ol style="list-style-type: none"> <li>1. Reread the two stanzas fluently (Spider's invitation and Fly's response), clearly showing the change in speakers with your voice.</li> <li>2. Choose two students to act out these two stanzas by paraphrasing what the characters say, and showing actions</li> </ol>	<p>Check to see that students are able to paraphrase the poem and add support as needed.</p> <p>Sample student dialogue: <i>Spider: Come into my living room, little fly. It's right upstairs and there are lots of cool things to see there.</i> <i>Fly: No way! I know that when someone goes into your living room, they never come out again!</i></p>



<p>and reactions with their bodies. Reread sections of the text as needed to ensure that the dramatic interpretation accurately reflects the words in the story.</p> <ol style="list-style-type: none"> <li>Direct the rest of the class to watch the scene and then pose the following questions:             <ul style="list-style-type: none"> <li>How does the Spider try to trick the Fly into his web?</li> <li>What does the Fly say?</li> </ul> </li> <li>Record a response to each question on a class chart using words, pictures from the text, quick sketches or some combination of the three.</li> </ol>	<p>Help students to better understand the character's actions and reactions by asking the class to notice, or give suggestions about, the actors' body language and expressions.</p> <p>See sample graphic organizer in Teacher Notes. Possible responses:</p> <table border="1"> <thead> <tr> <th>How does the Spider try to trick the fly into his web?</th><th>What does the Fly say or do?</th></tr> </thead> <tbody> <tr> <td>Tells her there are cool things to see in his parlor.</td><td>Oh no, no!</td></tr> </tbody> </table>	How does the Spider try to trick the fly into his web?	What does the Fly say or do?	Tells her there are cool things to see in his parlor.	Oh no, no!
How does the Spider try to trick the fly into his web?	What does the Fly say or do?				
Tells her there are cool things to see in his parlor.	Oh no, no!				
<p><b>Reread pages 5 &amp; 7:</b></p> <p>QUESTIONS:</p> <p>What do you think "weary" means?</p> <p>Why does the Spider think the Fly might be weary?</p> <p>What does the Spider <u>really</u> mean when he says, "I'll snugly tuck you in." Turn and talk to a partner about your ideas.</p>	<p>Weary means very tired.</p> <p>The Fly might be weary because she has been flying so high.</p> <p>The Spider means he is going to wrap her up to get ready to eat her. (If students have not learned about spiders through nonfiction articles or chapter books like <i>Charlotte's Web</i>, the teacher may need to provide brief context about how spiders live and get their food.)</p>				
<p><b>Act out the passages:</b></p> <ol style="list-style-type: none"> <li>Reread both stanzas aloud fluently.</li> <li>Choose two students to act them out.</li> <li>Pose the questions:             <ul style="list-style-type: none"> <li>How does the Spider try to trick the fly into his web?</li> <li>What does the Fly say?</li> </ul> </li> <li>Record a class response on the chart.</li> </ol> <p>Have students help you read what is on the chart to summarize what you have read today.</p>	<p>Check to ensure that dialogue accurately paraphrases the passage. Reread all or parts of the passage as needed.</p> <p>See graphic organizer for sample responses and key understandings.</p>				

<p><b>THIRD READING:</b></p> <p>Explain that today you will continue to explore <i>The Spider and the Fly</i>. Reread up to page 8 without stopping, inviting students to participate by holding up their puppets as each character speaks. Then, call on a few students to briefly summarize what you have read.</p>	<p>If helpful, use the class notes to help students concisely summarize. (See completed chart in the Resource section for the key information students should remember from each section.)</p>
<p><b>Reread pages 9 &amp; 12:</b></p> <p><b>QUESTIONS:</b></p> <p>What is a “pantry”? What clues in the words and illustrations can help you to figure this out?</p> <p>Look carefully at the illustration. What do you think the Fly “does not wish to see”?</p>	<p>Students should infer from the pictures of the table and Spider’s invitation to “take a slice”, that a pantry is a place where food is stored.</p> <p>Bugs prepared to be eaten.</p>
<p><b>Act out the passages and add to the chart using the established routine.</b></p>	<p>See graphic organizer for sample responses and key understandings.</p>
<p><b>Reread page 13:</b></p> <p><b>QUESTIONS:</b></p> <p>Wise means “very smart”. Why might Spider tell Fly that she is “wise”?</p> <p>Use the pictures and the words. What do you think “looking glass” means?</p> <p>Repeat these words from the text after me:  <i>“How handsome are your gauzy wings, (pause for students to repeat) how brilliant are your eyes.” (pause for students to repeat)</i></p> <p>How does Fly look?</p> <p>What might “gauzy” mean? “Brilliant?” Use the pictures to help you figure this out.</p>	<p>To make her feel smart, or to make her like him.</p> <p>“Looking glass” is a glass that you look into. The pictures show that it is a mirror.</p> <p>“handsome” with “gauzy wings” and “brilliant” eyes.</p> <p>Point out Fly’s “see through” wings and shining eyes in the illustrations to define these terms.</p>

What does Spider want Fly to see when she looks into the mirror?	How beautiful she is.
<b>Reread page 16:</b> QUESTIONS: What is different about the way Fly answers him here?	She doesn't say, "no" – she thanks him and says she'll come back.
Why do you think she answers differently?	She liked being called handsome and getting compliments.
<b>Act out the passages and add to the chart using the established routine.</b>	See graphic organizer for sample responses and key understandings.
<b>Reread page 17:</b> <i>Note: Students should be at their desks or tables with access to drawing paper and crayons during this part of the reading.</i>  QUESTIONS: In the last stanza, the Spider told the Fly that she was wise. What word in this part tells you that he doesn't really think that she is wise?  What is a spider's "table"? What does "set his table ready" mean?  Draw a picture to show what the Spider did.  What does Spider think is going to happen? How do you know?	"silly" little fly  Spider's table is his web. "Set his table ready" means to make a web to eat on.  Reread the last two lines of the stanza while students draw. If students draw a real table, point out that there is no table in the book's illustration—Spider's web is his table.  Spider thinks the Fly will come back and he will eat her. The words say that he knows she will "soon come back again" and he is spinning a web, so he must be planning to catch her.
Have students briefly share their drawings with a partner to end the lesson.	

<p><b>FOURTH READING</b></p> <p>Compliment students on how carefully they have been reading the book and explain that today you will continue to explore <i>The Spider and the Fly</i>.</p> <p>Reread up to page 18 without stopping, inviting students to participate by holding up their puppets as each character speaks. Then, call on a few students to briefly summarize what you have read.</p>	<p>During this reading, use strategically placed pauses to encourage students to use the rhyme pattern to help you finish some of lines in the poem.</p> <p>If helpful, use the class notes to help students concisely summarize.</p>
<p>Give each student a picture of the Fly and be sure they have access to crayons.</p> <p><b>Reread page 19:</b></p> <p>Give the following directions:</p> <p>Listen very carefully to the words Spider uses to describe Fly.</p> <p>As I read each line, use your crayons to color in the picture to show what Fly looks like.</p>	<p>Students' coloring should match the description in the poem: white and silver wings, green and purple body, bright eyes.</p> <p>As students draw, help them "unpack" and visualize each line as needed. Use questions like:</p> <p>What color is a pearl? What might Fly's "robes" be? Why does the poem say her eyes are like diamonds?</p>
<p><b>Reread page 21:</b></p> <p><b>QUESTIONS:</b></p> <p>What did the "silly little fly" hear?</p> <p>What do you think "flattering" means?</p> <p>What flattering words was Fly thinking of as she flew near him?</p>	<p>Spider's "wily, flattering words".</p> <p>To say nice things that you do not mean.</p> <p>The words he used to describe how beautiful she was.</p>
<p><b>Act out the passages and add to the chart using the established routine.</b></p>	<p>See graphic organizer for sample responses and key understandings.</p>
<p><b>QUESTIONS:</b></p> <p>Now turn and talk to a classmate:</p> <p>What did Fly do?</p> <p>Why do you think she did this?</p> <p>What do you think "foolish" means?</p>	<p>Fly flew nearer and nearer to the Spider's web.</p> <p>Answers about why she did this may include ideas like:</p> <ul style="list-style-type: none"> <li>• She wanted to hear more about how beautiful she was.</li> <li>• She was thinking only about her own beauty and forgot to be careful.</li> <li>• She thought the Spider was nice because he said nice things.</li> </ul> <p>Foolish means, "stupid".</p>

Why does the author call Fly a “poor, foolish thing”?	She went too close to the Spider, that wasn’t very smart.
<b>FIFTH READING</b> Explain that today you will finish your work with <i>The Spider and the Fly</i> . Reread up to page 21 without stopping. To encourage focus, students <u>should not use their puppets</u> during this last reading. Together, review the information on the class chart. (This will serve to summarize the events in the story.)	By this point, many students will know parts of the poem by heart. Encourage them to “read” along with you wherever they can.
<b>Reread Pages 22 &amp; 23:</b> <b>QUESTIONS:</b> What happened to the “poor foolish little Fly”?  Does the last line remind you of another part of the poem? Which one?  <b>THINK:</b> If the Fly knew that she might “ne’er come out again” why did she fly so close to the Spider?	Spider grabbed her and dragged her up the winding stair to his web and she never came out again.  When they first met, Fly told Spider that, “who goes up your winding stair can ne’er come down again”.  Allow a silent minute to think about this question before directing students to discuss their ideas with a partner.
Group students in pairs and discuss this next question: How does the Spider trick the Fly into his web? Explain your thinking to a partner.	Answers will vary, but should indicate some connection between the Spider’s flattering words and the Fly’s poor decision to fly near him.
<b>Reread Pages 25 &amp; 26:</b> <b>QUESTIONS:</b> The poem tells us to “close heart and ear and eye”. Show me how you might “close your ears”. Show me how you might “close your eyes”. Now show me how you might “close your heart”. (Pause to allow students to try.) What do you think “close your heart” might mean? What do you think the author wants us to do when we meet	If needed, repeat the full line again, covering your heart, ears and eyes with your hands as the lines are read.  Explain that sometimes words in a story mean something different than they seem to. Here, “close your heart” means

someone like Spider?

Give students a piece of drawing or “picture story” paper and explain the directions for the culminating task below. Circulate as students work, encouraging them to tell you more about their drawings and writing. Share responses in small groups or display on a bulletin board.

don't care about or don't pay attention to.

Listen for answers that show an understanding that that the poem is warning us not to listen to the “silly, flattering words” of people like Spider.

This lesson is designed to be flexible. Feel free to insert or delete rows as needed for additional questions, activities, or tasks.

Questions, Activities, Vocabulary, and Tasks are all aligned to the CCSS for ELA and can address any of the following through reading aloud rich selections:

- Academic language exploration and learning (vocabulary and syntax)
- Speaking and Listening activities
- Writing activities
- Language activities and questions
- Creative performance tasks and activities that are text-specific or text-inspired
- Foundational reading skills reinforcement where appropriate

## Culminating Task

What is the lesson of this tale? What is this story trying to teach us? Use pictures and words to show what the author wants us to learn from the story in this book.

## Vocabulary

<p><b>These words merit <u>less</u> time and attention</b> (They are concrete and easy to explain, or describe events/ processes/ideas/concepts/experiences that are familiar to your students)</p>	<p><b>These words merit <u>more</u> time and attention</b> (They are abstract, have multiple meanings, and/or are a part of a large family of words with related meanings. These words are likely to describe events, ideas, processes or experiences that most of your student will be unfamiliar with)</p>
<p>Page 1: <b>parlor</b> – living room Page 2: <b>ne'er</b> – never Page 9: <b>pantry</b> – place where food is stored</p>	<p>Page 3: <b>weary</b> – tired Page 14: <b>wise</b> – smart Page 21: <b>flattering</b> – saying nice things that you do not mean Page 21: <b>foolish</b> – stupid</p>

## Fun Extension Activities for this Book and Other Useful Resources:

1. The author's website includes downloadable paper puppets to make and Spider and Fly screensavers:

<http://diterlizzi.com/home/project/the-spider-and-the-fly/>

2. A short video of Tony DiTerlizzi talking to a class about the process of illustrating the book:

<http://www.youtube.com/watch?v=HEKEaoNDSU8>

3. A BBC video of *The Spider and The Fly* being read aloud:

<http://diterlizzi.com/home/videos/#lightbox/8/>

4. Extension: Have students explore the following question: Whose fault is it that the fly “ne’er came out again”?

*Include activities like:*

- Stand under the picture of the Spider if you think the Spider was to blame.
- Stand under the picture of the Fly if you think the Fly was to blame.
- Choose a partner who has a different opinion. Explain your thinking to a partner.
- Write a paragraph. Use evidence from the poem to explain your opinion and reasoning.

5. Give students a copy of the poem to illustrate. Older students may be interested in preparing a choral reading (divide students into groups and have each group learn one stanza) or a puppet show. Mary Howitt’s poem is in the public domain and reproduced below.



**THE SPIDER AND THE FLY**  
**by Mary Howitt (1799-1888)**

"Will you step into my parlor?" said the spider to the fly;

"'Tis the prettiest little parlor that ever you did spy.

The way into my parlor is up a winding stair,

And I have many curious things to show when you are there."

"O no, no," said the little fly, "to ask me is in vain,

For who goes up your winding stair can ne'er come down again."

"I'm sure you must be weary, dear, with soaring up so high;

Will you rest upon my little bed?" said the spider to the fly.

"There are pretty curtains drawn around, the sheets are fine and thin,

And if you like to rest awhile, I'll snugly tuck you in."

"O no, no," said the little fly, "for I've often heard it said,

They *never*, *never wake* again, who sleep upon *your* bed."

Said the cunning spider to the fly, "Dear friend, what shall I do,

To prove the warm affection I've always felt for you?

I have within my pantry good store of all that's nice;

I'm sure you're very welcome; will you please to take a slice?"

"O no, no," said the little fly, "kind sir, that cannot be;

I've heard what's in your pantry, and I do not wish to see."

"Sweet creature!" said the spider, "You're witty and you're wise!

How handsome are your gauzy wings, how brilliant are your eyes!

I have a little looking-glass upon my parlor shelf,

If you'll step in one moment, dear, you shall behold yourself."

"I thank you, gentle sir," she said, "for what you're pleased to say,

And bidding you good-morning *now*, I'll call *another* day."

The spider turned him round about, and went into his den,  
For well he knew the silly fly would soon be back again:  
So he wove a subtle web, in a little corner sly,  
And set his table ready to dine upon the fly.  
Then he came out to his door again, and merrily did sing  
"Come hither, hither, pretty fly, with the pearl and silver wing:  
Your robes are green and purple; there's a crest upon your head;  
Your eyes are like the diamond bright, but mine are dull as lead."

Alas, alas! how very soon this silly little fly,  
Hearing his wily flattering words, came slowly flitting by.  
With buzzing wings she hung aloft, then near and nearer drew  
Thinking only of her brilliant eyes, and green and purple hue;  
Thinking only of her crested head — *poor foolish thing!* At last,  
Up jumped the cunning spider, and fiercely held her fast.  
He dragged her up his winding stair, into his dismal den,  
Within his little parlor; but she ne'er came out again!

And now, dear little children, who may this story read,  
To idle, silly, flattering words, I pray you ne'er give heed;  
Unto an evil counselor close heart, and ear, and eye,  
And take a lesson from this tale of the Spider and the Fly.

## Note to Teacher

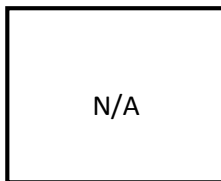
Below is a sample of a completed class chart of "public notes". In this type of group note taking, the teacher helps the class to decide what to record. Notes may take the form of words, illustrations from the book, drawings, or any combination of the three. Notes may be paraphrased or quoted. Refer to your public notes frequently. Drawing attention to the patterns in the chart will help students figure out how the Spider is able to trick the Spider into his web.

How does the Spider trick the Fly into his web?	
How does the Spider try to trick the fly into his web?	What does the Fly say or do?
Invites her to see cool things in his parlor	O no, no
Says she can rest in a comfortable bed	O no, no
Offers her yummy things to eat	O no, no
Tells her to look in the mirror to see how pretty she is	I thank you, gentle sir
Tells her that her wings and body and eyes are beautiful	Comes nearer and nearer

# What Makes This Read-Aloud Complex?

## 1. Quantitative Measure

Go to <http://www.lexile.com/> and enter the title of your read-aloud in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database.



Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the students can read themselves.

2-3 band	420-820L
4-5 band	740-1010L

## 2. Qualitative Features

Consider the four dimensions of text complexity below. For each dimension\*, note specific examples from the text that make it more or less complex.

<p>The story has an overall message: “And take a lesson from this tale...”: Don’t let yourself be tricked by sweet, flattering words.</p> <p style="text-align: right;"><b>Meaning/Purpose</b></p>	<p>The poem takes the form of an alternating dialogue between Spider and Fly: “...said the Spider to the Fly.”</p> <p style="text-align: right;"><b>Structure</b></p>
<p style="text-align: right;"><b>Language</b></p> <p>Figurative language: “close heart and ears and eyes”</p> <p>Old fashioned language: parlor, ne’er</p>	<p style="text-align: right;"><b>Knowledge Demands</b></p> <p>Some students may need background on what spiders eat and how they catch their food.</p>

## 3. Reader and Task Considerations

*What will challenge my students most in this text? What supports can I provide?*

- The archaic and figurative language structures and vocabulary will be challenging. Support using repeated readings, questions to clarify word meanings and careful attention to how the illustrations and text connect. Build in frequent opportunities for drama to paraphrase text, and drawing to visualize complex sections.

*How will this text help my students build knowledge about the world?*

- Many lines and images from this poem are iconic (“Come into my parlor...” “He wove a subtle web.”). Students familiar with this story and its language will have a basis for understanding expressions and imagery they will encounter later, in conversation and literature. The book also teaches an important lesson.

\*For more information on the qualitative dimensions of text complexity, visit [http://www.achievethecore.org/content/upload/Companion\\_to\\_Qualitative\\_Scale\\_Features\\_Explained.pdf](http://www.achievethecore.org/content/upload/Companion_to_Qualitative_Scale_Features_Explained.pdf)

**Title/Author:** *Spiders* by Gail Gibbons

**Suggested Time:** 2 Days (Recommendation: two sessions per day, at least 20 minutes per session)

**Tennessee ELA/Literacy Standards:** RI.1.1, RI.1.2, RI.1.3, RI.1.4, RI.1.5, RI.1.6, RI.1.7, RI.1.9; SL.1.1B, SL.1.1C, SL.1.2, SL.1.5; L.1.4A, L.1.5A, L.1.5B, L.1.6

### Lesson Objective

Students will actively listen to the informational picture book *Spiders* in order to learn more about spiders. This book study can easily be paired with other books and articles about spiders, and is particularly recommended to be used as a “side trip” while reading *Charlotte’s Web*. It was designed to be read just after Charlotte tells Wilbur about her nature (in Chapter V, “Charlotte”).

## Teacher Instructions

### Before the Lesson

1. Read the Key Understandings and the Synopsis below. ***Please do not read this to the students.*** This is a discussion to help you prepare to teach the book and be clear about what you want your children to take away from the work.

### Key Understandings

Spiders are not insects but their own special species. There are many different types of spiders that do all sorts of different things to catch food.  
(If connecting to *Charlotte’s Web*: what Charlotte teaches Wilbur about spiders, and what Wilbur will see for himself at the end, are true facts.)

### Synopsis

The book starts with general facts about spiders, including where the scientific name of spiders comes from, then tells the parts of a spider's body and how spiders and insects are different. Then Gibbons gives examples of various interesting spiders and what they do to catch insects to eat. (Note: *Charlotte was a common house, or barn, spider*).

2. Go to the last page of the lesson and review "What Makes this Read-Aloud Complex." This was created for you as part of the lesson and will give you guidance about what the lesson writers saw as the sources of complexity or key access points for this book. You will of course evaluate text complexity with your own students in mind, and make adjustments to the lesson pacing and even the suggested activities and questions.
3. Read the entire book, adding your own insights to the understandings identified. Also note the stopping points for the text-inspired questions and activities. *Note: you may want to copy the questions, vocabulary words, and activities over onto sticky notes so they can be stuck to the right pages for each day's questions and vocabulary work.*

The majority of questions, activities, and tasks should be based on the writing, pictures and features unique to *Spiders* (they should be text-specific). Questions that address text-to-self or text-to-world connections - what we like to call *text-inspired* questions or activities - should be held until **after** the children have really gotten to know the book.

Questions, Activities, Vocabulary, and Tasks are all aligned to the CCSS for ELA and can address any of the following through reading aloud rich selections:

- | Questions, Activities, Vocabulary, and Tasks   | Expected Outcome or Response (for each)   |
|--|---|
| <p>FIRST READING:</p> <p>Read aloud the entire <i>Spiders</i> book with minimal interruptions. Stop to provide word meanings or clarify only when you know the majority of your students will be confused.</p>   | <p>The goal here is for students to enjoy the book, both writing and pictures, and to experience it as a whole.</p>   |
| <p>SECOND READING:</p> <p>As you read this time, stop and ask clarifying questions and discuss as much of the vocabulary as you can while maintaining some flow. See the vocabulary chart (below) for reference. There will be other opportunities to work on vocabulary.</p> <ol style="list-style-type: none"> <li>1. What sizes do spiders come in?</li> <li>2. Linger on the pages that compare a spider's body to an insect's body. Have the students point to all different</li> </ol> | <ol style="list-style-type: none"> <li>1. Students should be able to say they come in all sizes and shapes. Some big (discuss "dinner plates") and some very small (discuss a "speck of dust")</li> <li>2. Students should have a chance to point.</li> </ol> |

<p>sizes and types of print on these pages.</p> <ol style="list-style-type: none"> <li>Read the big titles again. What do they tell us we will be learning on these pages?</li> <li>What does all the writing on the blue parts of the pages tell us?</li> <li>Tell the children that the writing on the bottom has the BIG idea from these pages. What is it? Have a couple of the students say.</li> <li><i>Charlotte's Web connection:</i> Two pages later, the book tells us that baby spiders are called "spiderlings". Do we know any other baby animals that have -ling in their name?</li> <li>Why do spiders weave webs?</li> <li>What do spiders eat?</li> </ol>	<ol style="list-style-type: none"> <li>They tell us about a spider's body and an insect's body and the differences.</li> <li>They are the names for all the different body parts. (Reassure the children they don't need to remember all of these. <b>Make sure you point out the "spinnerets"</b> since the rest of the book will talk about spinning webs and catching food.)</li> <li>The big idea is that spiders are NOT insects. They are very different.</li> <li><i>Charlotte's Web</i> mentions that the goose is expecting goslings, baby geese.</li> <li>To catch their food.</li> <li>They eat insects. This is an inference that is not so easy! So let your students work through it and make sure those who get the answer provide the textual evidence for how they figured this out so all the kids can hear it!</li> </ol>
<p>THIRD READING:</p> <p>Just reread the part of <i>Spiders</i> that tells the different ways spiders make food.</p> <p>Make a chart on chart paper and draw AND list the different kinds of webs and traps the book mentions. Don't worry about the different names of the spiders.</p>	<p>The chart should have all of the types listed below. Kids should be encouraged to summarize in their own words after you read each page that tells a type of food catching system.</p> <p><b>Types of webs:</b> tangled, sheet, funnel, triangle, and orb</p> <p><b>Types of other traps:</b> hiding in rocks, making a trap door in the ground, hiding in an underwater bell web, changing colors, and hiding in flowers</p>

## Final Day with the Book - Culminating Task

*Charlotte's Web* connection: reread chapter five "Charlotte" where Charlotte teaches Wilbur about her nature as a spider. Have the children notice and talk about the things Charlotte tells Wilbur that were also part of the *Spiders* book. At the end of *Charlotte's Web*, when Charlotte's children hatch, there will be more connections to make back to this book.

If you are doing a standalone unit on spiders, there are other activities to choose from in the Fun Extension Activities.



## Vocabulary

These words merit <u>less</u> time and attention (They are concrete and easy to explain, or describe events/ processes/ideas/concepts/experiences that are familiar to your students)	These words merit <u>more</u> time and attention (They are abstract, have multiple meanings, and/or are a part of a large family of words with related meanings. These words are likely to describe events, ideas, processes or experiences that most of your student will be unfamiliar with)
<p>Page 1      <b>30,000</b> – a lot of spiders!</p> <p>Page 2      <b>speck</b> – a tiny dot, smaller than a pencil mark</p> <p>Page 4      <b>300 million years ago</b> – before dinosaurs as Gibbons says, and WAY before people</p> <p>             <b>roamed</b> – wandered around, like on a playground when you can't decide what you want to do</p> <p>Page 5      <b>legend</b> – an old story that probably isn't true</p> <p>             <b>weaving/weave/weavers</b> – like knitting. Putting strings together in a pattern to make clothes</p> <p>Page 6      <b>spin</b> – to make a string from a clump of something; weavers spin yarn from sheep's wool on a spinning wheel; spiders spin silk threads from their bodies</p>	
These words merit <u>less</u> time and attention	These words merit <u>more</u> time and attention
<p>Page 8      <b>a mate</b> – a partner for a living creature so they can work together to make babies or raise them</p> <p>             <b>attract</b> – to make something want to come toward you; a magnet can attract metal</p>	

Page 9	<b>encloses</b> – closes them up inside	
Page 10	<b>creep</b> – to crawl like a baby	
Page 12	<b>sheds</b> – to get rid of something	
	<b>tangled</b> – in knots, with no pattern or design to it	
Page 14	<b>held in place</b> – it can't move much; it is solidly fastened like a seat belt holds people riding in cars	
Page 15	<b>pattern</b> – a design that you can see repeating	
	<b>orb</b> – a circle or wheel shape; the earth makes an orbit around the sun; it circles the sun	
Page 17	<b>instantly</b> – right away! with no waiting	
	<b>pounces</b> – jumps on; like a cat jumps on a mouse	
	<b>stuns</b> – stings it so it can't move	
Page 18	<b>burrows</b> – small caves or holes that something has dug	
Page 19	<b>protect</b> – keep safe, not let it get hurt	
	<b>hinged</b> – fastened at one end, but so it can swing back and forth; doors have hinges	
	<b>scurries</b> – hurries out; crawls really fast	
		<p>Page 19</p> <p><i>common</i> or usual; in school, you have lunch every day; it is usual; but to have a party in school is not usual; it is <b>un</b>usual; <b>un</b> means “not”</p>

These words merit <u>less</u> time and attention	These words merit <u>more</u> time and attention
Page 21 <b>snatches</b> – grabs quickly Page 22 <b>disturbed</b> – bothered by something <b>dangerous/danger</b> – can hurt you or kill you <b>poison</b> – something that makes you very sick or even kills you; poison is <i>dangerous</i> ! Page 23 <b>stretched out</b> – pulled so it is as long as it can be <b>can measure</b> – can be as long as <b>enemies</b> – something that wants to hurt you, not your friend Page 24 <b>expert</b> – someone who knows all about something Last Page <b>mashed</b> – all ground up together, squished <b>remedy</b> – a cure or fix for something <b>terrified</b> – very very scared	Page 26 <b>important</b> – very special and worth a lot  <b>common</b> – very usual; the opposite of unusual Last Page

## Fun extension activities for *Spiders* and other useful resources

1. This read-aloud lesson on spiders was designed as a companion lesson to reading aloud the great classic *Charlotte's Web*. We strongly recommend reading *Charlotte's Web* aloud as early in first grade as you want to, since many children on track in reading for the CCSS will be able to read *Charlotte's Web* for themselves at some point in 3<sup>rd</sup> grade. Returning to a book you remember fondly is a great prescription for creating lifelong lovers of reading. "Spinning off" Charlotte's own description of herself when she first meets Wilbur (in chapter V, "Charlotte") to teach children even more about the wonderful powers of spiders is a great chance to build knowledge systematically.

2. Focus on trap door spiders: The BBC website has great videos on this topic. [This link](#) will take you to a page on trapdoor spiders with an [action video](#). There are also links to all sorts of other animal adaptations.

**An activity to teach about hinges and trapdoor spiders:** give your children apples for a snack. Have them take as big a bites as they can of the apple (hopefully, you're reading this to children who still *have* their front teeth), but not bite completely through the skin. This will leave the bite still connected to the apple by a flap of skin. The bitten piece of apple will flap perfectly against the apple, exactly mimicking the action of a trapdoor.

3. Read aloud other books where spiders are the main characters. See the companion RAP lesson on "The Spider and the Fly" or read more readily available science books.
4. Read D'Aulaire's version of the myth of Arachne and Athena and their great weaving contest (or any public domain version of the myth you like. If you want to do an activity afterwards to demonstrate weaving with your students, here are easy-to-follow instructions. [Instructions on paper weaving](#)

## Note to Teacher

This book provides solid information, and that is about it. So the questions were designed to move you and your students through to gain maximum information about spiders and what their characteristics are. It is *very* good to demonstrate text structure and all the different ways a reader gets information from a page. So be sure to emphasize that! But don't worry about spending a ton of time inside the book.

Whenever it is the case that a book is good, but not fabulous, make lemonade out of the lemon! There is tons of vocabulary to work on with your students, and there are useful and educational extension activities you can do with your students laid out just above.

# What Makes This Read-Aloud Complex?

## 1. Quantitative Measure

Go to <http://www.lexile.com/> and enter the title of your read-aloud in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database.

620L
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Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the students can read themselves.

2-3 band	420-820L
4-5 band	740-1010L

## 2. Qualitative Features

Consider the four dimensions of text complexity below.

<p>Simple purpose. The book is intended to provide some high interest facts about spiders.</p> <p><b>Meaning/Purpose</b></p>	<p>Highly complex, and worth a good deal of focus. Information comes from pictures (sometimes charts), captions and paragraphs of text. The book goes from general facts about spiders to very specific details about one type of spider. The pages that demonstrate the difference in body types between spiders and insects provide good examples of the complex structure.</p> <p><b>Structure</b></p>
<p><b>Language</b></p> <p>The language is straightforward. Most sentences are declarative. There is a lot of specialized vocabulary, but Gibbons does a good job supporting it in every case.</p>	<p><b>Knowledge Demands</b></p> <p>There are lots of big numbers that 1<sup>st</sup> graders are not likely to know (30 thousand types of spiders, that they've been around 300 million years). These should be explained and not glossed over. The idea that animals are grouped into types (spiders and insects) and that they have fancy names (arachnid family) will be news to many children.</p>

## 3. Reader and Task Considerations

*What will challenge my students most in this text? What supports can I provide?*

- That the book moves from broad to specific needs to be pointed out and discussed. This is a fairly abstract idea, but there are good examples from the book to make it more concrete.
- The fact that information comes from the pictures themselves, from the captions and also from the paragraphs at the bottoms is hugely important for kids, even non-readers, to see for themselves.

*How will this text help my students build knowledge about the world?*

- It will teach them about spiders and their place in the natural world and will give them important experience with complex informational text structure.

**Title/Author:** *The Great Kapok Tree* by Lynne Cherry

**Suggested Time to Spend:** 5 Days (Recommendation: one session per day, approximately 30 minutes per day)

**Tennessee ELA/Literacy Standards:** **RL.2.1**, **RL.2.2**, **RL.2.3**, **RL.2.6**, **RL.2.7**; **W.2.2**, **W.2.8**; **SL.2.1**, **SL.2.2**, **SL.2.6**; **L.2.1**, **L.2.2**, **L.2.4**

### Lesson Objective

Students will listen to a book read aloud and use literacy skills (reading, writing, speaking and listening) to answer questions and complete activities.

## Teacher Instructions

### Before the Lesson

1. Read the Big Ideas and Key Understandings and the Synopsis below. ***Please do not read this to the students.*** This is a description to help you prepare to teach the book and be clear about what you want your children to take away from the work.

### Big Ideas/Key Understandings/Focusing Question

Why do living things need the rain forest? Living things depend on the rain forest for shelter, food, and protection.

### Synopsis

A man walks into a lush rain forest and starts chopping down a huge kapok tree. Lulled by the heat, he sits down and soon falls asleep. The forest dwellers approach him, each pleading in his ear a reason to keep the tree standing. Suddenly, the man wakes up, and for the first time notices the beauty all around him.

2. Go to the last page of the lesson and review "What Makes this Read-Aloud Complex." This was created for you as part of the lesson and will give you guidance about what the lesson writers saw as the sources of complexity or key access points for this book. You will of course evaluate text complexity with your own students in mind, and make adjustments to the lesson pacing and even the suggested activities and questions.
3. Read the entire book, adding your own insights to the understandings identified. Also note the stopping points for the text-inspired questions and activities. *Hint: you may want to copy the questions, vocabulary words and activities over onto sticky notes so they can be stuck to the right pages for each day's questions and vocabulary work.*

## The Lesson – Questions, Activities, and Tasks

Questions/Activities/Vocabulary/Tasks	Expected Outcome or Response (for each)				
<p><b>FIRST READING:</b></p> <p>Show students the beginning pages with the world map of the tropical rain forests. Read aloud the entire book with minimal interruptions. Stop to provide word meanings or clarify only when you know the majority of your students will be confused.</p> <p><b>SECOND READING:</b></p> <p><b>Pages 1-9</b></p> <p>In the introduction to the story, the author stated “This is the story of a community of animals that live in one such tree (Kapok) in the rain forest.” What does community mean? How might members of a community depend on one another?</p> <p>For the second reading tell students that we will be keeping track of the animals and their reasons NOT to chop down the tree.</p> <p>Create a “T Chart” to gather information about the animals and their dependence on the rain forest.</p> <p>Update this chart with the introduction of each new animal.</p> <p>Page 1</p> <p>How was the forest alive?</p> <p>Teacher provides definitions for squawking and howling.</p> <p>Why were the creatures suddenly quiet?</p>	<p>The goal here is for students to enjoy the book, both writing and pictures, and to experience it as a whole. This will give them some context and sense of completion before they dive into examining the parts of the book more carefully.</p> <p>A community is a group that lives together and depends on one another. The animals depend on each other and the rain forest for shelter and food.</p> <table border="1"> <thead> <tr> <th>Animals</th><th>Reasons not to chop down the tree.</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> </tbody> </table> <p>The forest had been alive with the sound of squawking birds and howling monkeys.</p> <p>The creatures were suddenly quiet because they were watching the two men who walked into the rain forest and were wondering why they had come.</p>	Animals	Reasons not to chop down the tree.		
Animals	Reasons not to chop down the tree.				

<p>Page 3</p> <p>Go back a page and ask, "what do we now know that tells us why the other man pointed to the tree?"</p> <p>Have students pretend they are whacking and chopping at a tree.</p> <p>What caused the man to fall asleep?</p> <p>Write the word "slithered" for students to see. Have them repeat the word after you. Show students the picture on page. Have students explain what the word slithered means using words and motions.</p> <p>Fill in the chart with why the boa constrictor doesn't want the man to chop down the tree.</p> <p>Discuss what "...generations of my ancestors..." means.</p> <p>Page 6</p> <p>What does pollinate mean?</p> <p>Fill in the chart with why the bees need the trees.</p> <p>Page 8</p> <p>Explain that a troupe is a group of performers. Have students give other examples of collective nouns. For example, a bunch of flowers, a school of fish, a set of tools, a class of children.</p>	<p>The man pointed to the tree because he wanted to chop it down.</p> <p>The heat and the hum of the forest had lulled him to sleep.</p> <p>Slithered means to move like a snake, wiggling from side to side.</p> <p>The boa constrictor did not want the man to chop down the tree because it was a tree of miracles. It was his home and the home where generations of his ancestors have lived.</p> <p>Older, (now dead) members of his family lived in that tree for many, many years.</p> <p>When an insect travels from tree to tree, flower to flower, collecting pollen.</p> <p>All living things like the bees and snakes need each other in order to survive. Living things need each other for food and shelter in order to survive.</p>
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<p>Looking at the illustrations, what does scampered mean? Have students use it in a sentence.</p> <p>Explain the canopy and the layers of the rain forest. Refer to the preface of the book.</p> <p>How do the roots of the trees help the earth?</p> <p>Fill in the chart with the monkeys.</p>	<p>Scampered means to run nimbly.</p> <p>The canopy is the tops of the trees in the rain forest.</p> <p>The roots of the trees help the earth by holding it in place. When heavy rains come, without the roots, the soil will be washed away.</p>
<p>THIRD READING:</p> <p><b>Pages 10-15</b></p> <p>Page 10</p> <p>Fill in the chart with why the toucan believes the tree should not be cut down.</p> <p>What does the author mean by, "Where once there was life and beauty only black and smoldering ruins remains,"?</p> <p>If students are confused remind them of what happens when a candle or match is put out (smoke but no flame), so they can make the connections.</p> <p>Page 12</p> <p>Fill in the chart with why the frogs do not want the Kapok tree chopped down.</p> <p>Page 14</p> <p>Why did no one notice the jaguar?</p> <p>Fill in the chart with why the jaguar does not want the man to chop down the tree.</p>	<p>Before man settled in the rain forest there was beauty and now there is ruin.</p> <p>A ruined rain forest means ruined lives, many ruined lives. The frogs will be homeless.</p> <p>The jaguar's spotted coat blended into the dappled light and shadows of the understorey.</p>

<p><b>FOURTH READING:</b>  <b>Pages 16-21</b>  Fill in the chart with what the porcupines reminded the man.</p> <p>What do trees produce? And why is this important?</p> <p>Page 18  Fill in the chart with the message from the anteaters.  Have students visualize a world without trees.</p> <p>Page 20  Read the first two sentences. Did the sloth climb quickly or slowly?  Explain what plodded means. Have students role play the sloth. Remind students to modify their voice to mimic the way the sloth spoke (in a deep, lazy voice).</p> <p>Fill in the chart with what the sloth meant by “ . . how much is beauty worth?”</p>	<p>Animals and humans need oxygen to live.</p> <p>Trees produce oxygen. We need oxygen to breathe.</p> <p>You are chopping down the tree with no thought for the future.</p> <p>The sloth climbed slowly because it took a while for him to reach the ground.</p> <p>She means if you destroy the beauty of the rain forest, there will be nothing to look at. You cannot put a price on beauty.</p>
<p><b>FIFTH READING:</b>  <b>Pages 22-30</b>  Page 22  Show appropriate pictures of the Yanomamo tribe.</p> <p>What does the child mean when he asks the man to “look upon us all with new eyes?”</p> <p>How is that different from the way the man viewed the tree in the beginning of the story? (You may need to review pages 1-3 with the students.)</p>	<p>He wants the man to show what he has learned from all of the animals in the forest who spoke to him in his sleep. He wants the man to see the value of the rain forest, and its inhabitants and not chop the tree down.</p> <p>The man entered the rain forest ready to chop the tree down.</p>

<p>Page 24</p> <p>Why were all the animals and the rain forest child staring at the man when he woke up?</p>	<p>The animals and child were staring at the man because they were waiting to see if he was going to chop down the Kapok tree.</p>
<p>Page 26</p> <p>How did the man's view of the forest change from what he had learned?</p>	<p>He saw the sun steaming through the canopy. Spots of bright light glowed like jewels amidst the dark green forest. Strange and beautiful plants seemed to dangle in the air, suspended from the great Kapok tree. He saw the beauty of the rain forest.</p>
<p>Page 30</p> <p>Why did the man change his mind and drop his ax and walk out of the rain forest?</p>	<p>He no longer wanted to chop down the tree.</p>
<p>What was the author's purpose for writing the book?</p>	<p>Lynne Cherry wrote the book so the reader can have a deeper appreciation of the rain forest and its creatures. Also, to bring awareness to the destruction of the rain forests.</p>

## Final Day with the Book - Culminating Task

- Using details from the text and the chart, explain what the man learned from the animals. Why are rainforests important?
  - The man in the story learned about how the rain forest creatures depend on one another and the forest for shelter, food and protection. The Kapok tree was home to many generations of boa constrictors as well as bees who pollinated many plants and trees, and built hives in them. Without the trees' roots, the ground will wash away and fires set will ruin the land. Also, trees produce oxygen that is essential to life. Animals like the jaguar prey on other animals in the forest. The rain forest is important because it is a source of life for the many creatures that depend on one another for survival. It also holds much beauty, which is priceless.

## Vocabulary

These words merit less time and attention (They are concrete and easy to explain, or describe events/ processes/ideas/concepts/experiences that are familiar to your students )	These words merit more time and attention (They are abstract, have multiple meanings, and/or are a part of a large family of words with related meanings. These words are likely to describe events, ideas, processes or experiences that most of your student will be unfamiliar with)
<p>Page 1-Kapok Tree- a large, deciduous, tropical tree that is native to tropical America, Africa, and the East Indies.</p> <p>Page 4- ancestors- one from whom an individual is descended</p> <p>Page 6- pollinate- the carrying of pollen to fertilize the seed</p> <p>Page 8- scampered- run nimbly</p> <p>Page 16- oxygen- gaseous chemical element essential for life</p> <p>Page 22- Yanomamo tribe- tribe of people who live in the rain forest</p>	<p>Page 1- squawking- harsh, loud crying</p> <p>Page 1- howling-to utter a loud, prolonged, mournful cry, as that of a dog or wolf.</p> <p>Page 3- lulled- make or become quiet</p> <p>Page 4- slithered- glide along like a snake</p> <p>Page 4- gash- deep long cut</p> <p>Page 8- troupe- a group of stage performers</p> <p>Page 10- smoldering- burn and smoke without flame</p> <p>Page 12- piped- to speak in a high-pitched or piercing tone.</p> <p>Page 14- dappled- mark with colored spots</p> <p>Page 14- padded- to walk so that one's footsteps make a dull, muffled sound</p> <p>Page 20- feast- to look at</p> <p>Page 20- plodding- walk heavily or slowly</p>

## Fun Extension Activities for this Book and Other Useful Resources

1. Show a video of the story read aloud: <http://www.youtube.com/watch?v=gw0arFtHeVw>
2. Have the students act out the story in Reader's Theater:  
<http://www.timelessteacherstuff.com/readerstheater/GreatKapokTree.pdf>
3. Research different rain forest animals. Create animals using clay: <http://www.wikihow.com/Create-Clay-Animals>
4. Create a mural of the layers of the rain forest: [http://www.ehow.com/how\\_5642071\\_create-mural-students.html](http://www.ehow.com/how_5642071_create-mural-students.html)

<b>Animals</b>	<b>Reasons not to chop down the tree</b>
Boa Constrictor	This is a tree of miracles, home where generations of ancestors live.
Bees	Their hives are in the tree. Bees pollinate the rain forest.
Monkeys	The roots of the tree will wither and die, nothing will be left to hold the earth in place.
Birds	Men will set fire to clear the land and ruins will remain.
Frogs	The frogs will be homeless.
Jaguar	The trees are home to birds and animals, they will have no food.
Porcupines	Trees produce oxygen. We need oxygen to breathe.
Anteaters	What happens tomorrow depends on what you do today.
Sloth	Beauty is priceless.

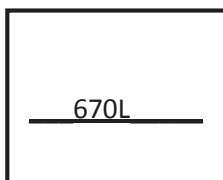
## Note to Teacher

This book does not have any page numbers. Please number the pages yourself starting with, "Two men walked..." Also, please refer to the author's letter and summary prior to the copyright page as well as the author's information at the end of the book.

# What Makes This Read-Aloud Complex?

## 1. Quantitative Measure

Go to <http://www.lexile.com/> and enter the title of your read-aloud in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database.



Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the students can read themselves.

2-3 band	420-820L
4-5 band	740-1010L

## 2. Qualitative Features

Consider the four dimensions of text complexity below. For each dimension\*, note specific examples from the text that make it more or less complex.

<p>The story's message is that all living things are dependent on each other to survive. "A ruined rain forest means ruined lives . . . many ruined lives."</p>	<p>Text (i. e . different animals speaking to the sleeping man in his dreams) is written on one page and the illustrations supporting the text is on the other page.</p>
<p><b>Meaning/Purpose</b></p>	<p><b>Structure</b></p>
<p><b>Language</b></p> <p>The entire text is replete with rich vocabulary (e.g. slithered, ancestors, wither, shouldering, and fragrant as well as domain specific words (canopy, underbrush).</p>	<p><b>Knowledge Demands</b></p> <p>Students will need to build background knowledge about the elements of the rainforest for example canopy, and understory.</p>

## 3. Reader and Task Considerations

*What will challenge my students most in this text? What supports can I provide?*

- The domain specific vocabulary will be a challenge for the students. Supports will include repeated readings, three dimensional examples, and videos on the rain forest.
- Opportunities to draw illustrations to show understanding of the rain forest will be provided.

*How will this text help my students build knowledge about the world?*

- Through exploration of this text students will build content knowledge about the rain forest. Additionally, they will learn about the interdependence between living things which they can transfer to other areas of their lives.

\*For more information on the qualitative dimensions of text complexity, visit [http://www.achievethecore.org/content/upload/Companion\\_to\\_Qualitative\\_Scale\\_Features\\_Explained.pdf](http://www.achievethecore.org/content/upload/Companion_to_Qualitative_Scale_Features_Explained.pdf)

**Title/Author:** *The Cloud Book* by Tomie dePaola

**Suggested Time to Spend:** 10 Days (Recommendation: one session per day, at least 20 minutes per day)

**Tennessee ELA/Literacy Standards:** RI.2.1, RI.2.2, RI.2.3, RI.2.4, RI.2.5, RI.2.6; W.2.8; SL.2.1, SL.2.2

### Lesson Objective

Students will listen to an illustrated informational text read aloud and use literacy skills (reading, writing, discussion, listening, and research) to understand the big idea and use the information for real-world application.

## Teacher Instructions

### Before the Lesson

1. Read the Big Ideas and Key Understandings and the Synopsis below. ***Please do not read this to the students.*** This is a description to help you prepare to teach the book and be clear about what you want your children to take away from the work.

### Big Ideas/Key Understandings

There are various types of clouds that can be observed. People have used clouds (and their understanding of clouds) to predict upcoming weather.

### Focusing Questions

1. How can understanding clouds help you understand weather?
2. How would you describe the three main kinds of clouds?
3. What headings would work for this text? Why?

### Synopsis

This informational text is written with beautifully illustrated pictures that capture the details of the many types of clouds.

This text focuses on the 10 main types of clouds. dePaola's informational text explores the types of clouds, the myths about certain shapes, and popular sayings inspired by clouds and the weather.

2. Go to the last page of the lesson and review "What makes this Read-Aloud Complex." This was created for you as part of the lesson and will give you guidance about what the lesson writers saw as the sources of complexity or key access points for this book. You will of course evaluate text complexity with your own students in mind, and make adjustments to the lesson pacing and even the suggested activities and questions.
3. Read the entire book, adding your own insights to the understandings identified. Also note the stopping points for the text-inspired questions and activities. *Hint: you may want to copy the questions vocabulary words and activities over onto sticky notes so they can be stuck to the right pages for each day's questions and vocabulary work.* **If your version of the book does not have page numbers begin by numbering the first page of text as page 5. This will help ensure that any reference to page numbers in the plan will be clear.**

### The Lesson – Questions, Activities, and Tasks

First Reading:	<i>The Cloud Book</i> , questions
Second Reading:	Reread <i>The Cloud Book</i> , cards, marker
Third Reading:	<i>The Cloud Book</i> pages 8-11, Third Reading Materials (Cirrus, Stratus, Cumulus) from secondary text resource
Fourth Reading:	<i>The Cloud Book</i> pages 12-27, Fourth Reading Materials – Cloud Chart, Fourth Reading Materials in secondary text resource
Culminating Task:	<i>The Cloud Book</i> (for reference), Cloud Chart (for reference), "Bank of Words"



Questions/Activities/Vocabulary/Tasks	Expected Outcome or Response (for each)
<p><b>FIRST READING:</b> Read aloud the entire book (or chapter) with minimal interruptions. Stop to provide word meanings or clarify only when you know the majority of your students will be confused.</p> <p>If possible, display the book on an overhead projector, or document camera, while reading the story. This way, students can look at the illustrations which help to enhance the story.</p> <p>Questions for Students:</p> <ol style="list-style-type: none"> <li>1. Prior to reading: <i>What do you know about clouds?</i></li> <li>2. <i>What is this book about?</i></li> <li>3. <i>Give an example of what you learned about clouds.</i></li> <li>4. <i>What type of text is this book?</i></li> </ol>	<p>The goal here is for students to enjoy the book, both writing and pictures, and to experience it as a whole. This will give them some context and sense of completion before they dive into examining the parts of the book more carefully.</p> <ol style="list-style-type: none"> <li>1. Class discussion. Have students turn and talk with a partner. Stop. Have partners report on what they know about clouds.</li> <li>2. Class discussion. Students give responses individually.</li> <li>3. Class discussion. Students give responses individually.</li> <li>4. This book is an example of informational text. It provides factual information for ten cloud types and popular myths associated with cloud shapes and sayings used to predict/plan/prepare/adapt to possible upcoming weather patterns.</li> </ol>
<p><b>SECOND READING:</b> Reread entire text, Cards for student headings, marker</p> <p>The class will participate in naming the headings for each section. These will be placed on the board. The teacher will reread each section and in a whole class discussion the</p>	

students will select the most appropriate heading for that section. Students will then be given 1-2 headings and will work in their collaborative groups to find evidence from the text to support the heading chosen for that section.

Question for Students:

1. *What are the three main kinds of clouds?*

2. *What is the main idea of this section? How would you name it? We call that a "heading"; it helps the reader understand what they will read about. What heading would you give for this section to help a reader understand what they will read about?*

3. *What evidence did you find in the text that helped you decide which heading to choose for this section? (Students will work collaboratively in their groups and discuss, using evidence from the text, why this heading was chosen for this section.)*

1. Discuss. Cirrus-white and feathery-the highest clouds. Cumulus-puffy with flat bottoms-low down in the sky. Stratus-wide blankets of grey-low in the sky.

2. In collaborative groups students will orally suggest headings for sections of the text. Example headings include: Pages 5-7 (Introduction), 8-11 (Three Main Clouds), 12-27 (Other Kinds of Clouds), 18 (Fog), 19 (Mountain Names for Clouds), 20-23 (Long Ago Ideas About Clouds), 24-28 (Sayings About Clouds and Weather), 29-31 (The Cloud Story). The teacher will write the headings on cards and place them on the board. The teacher will then reread the section and students (whole class) will choose the appropriate heading for that section. Students will agree on the best heading for that section.

3. Assign each group 1-2 headings. Groups work together and find evidence from the text to provide evidence that the chosen heading was the appropriate choice. Once groups have finished collaborating, a representative from each group will discuss their heading and will provide evidence from the text as to why they chose that heading.

THIRD READING:

Read pages 8-11, Materials labeled Third Reading,

informational cards can be taken/cut from the Example Cloud Book(secondary text resource). Students will be utilizing texts from *The Cloud Book* and the secondary text resource Example Cloud Book.

Prior to reading, give table groups 3 cloud pictures and separate information cards from the secondary text resource(these can be cut/utlized from the information found the Example Cloud Book for Cirrus, Stratus, Cumulus Clouds). Ask students to listen for clues that will help them sort their clouds/information correctly.

Have the book projected through a document camera. Read the informational text aloud to students.

Students will sort their clouds (name/pictures, description) and defend their solution. Students can use the text and illustrations from the book for evidence. Students place correct pairs in/on a chart for all students to visualize.

Questions for Students:

1. *How did the author use text and illustrations to help you sort your cloud cards?*
2. *Using the text, provide one example of how the author described what each of the three main types of clouds "looks like" in the book.*

1. Example: We put this picture with Stratus because like on page 11. The author states that Stratus clouds are low and they look like wide blankets of gray. The illustration shows clouds that look like gray blankets piled up. Our picture and description match.

2. On page 9, the author described cirrus clouds as looking like "mares' tails." On page 10, the author described cumulus clouds as looking like cauliflowers. On page 11, the author described stratus clouds as looking like wide blankets of gray.

<p>3. What Kind of weather is associated with each cloud type?</p> <p>4. <i>How does the author help you understand what clouds are?</i></p> <p>5. <i>How do you know what a cumulonimbus cloud is?</i></p> <p>6. <i>Why did the author describe Altostratus and Altocumulus clouds on page 14?</i></p> <p>7. <i>Is the saying on page 25 correct or incorrect? How could you find out?</i></p>	<p>3. Students will use evidence from the book-text and illustrations to show evidence.</p> <p>4. On page 6 the author states the clouds are drops of ice or water hanging in the upper atmosphere and the illustration shows the cloud way up in the sky.</p> <p>5. The author tells you that you see them during a thunderstorm. He uses the word “mountains” to describe them and shows a dark mountain of a cloud in the illustration.</p> <p>6. The author describes both to show you how they are the same and different. They are the same in that they can be gray and rain or snow may fall from them. Altostratus look like sheets and Altocumulus are large puffs. The illustrations show the differences in shape and color.</p> <p>7. Student responses will vary. A student may come up with an experiment that could be conducted at school or at home.</p>
<p>FOURTH AND BEYOND:</p> <p>Reading Focus 12-27, Materials labeled Fourth Reading- Cloud Chart</p> <p>At table groups give each table 7 cloud types. Students will collaboratively discuss each cloud and the type of weather</p>	

associated with that cloud. Groups will report and information will be posted for students to visualize. Find this in the materials section labelled Fourth Reading -Cloud Chart; Focus reading on pages 12-17.

Questions for Students:

1. *What kind of weather is associated with each kind of cloud?*
2. *What do you notice about the names of the other 7 types of clouds (cirrocumulus, cirrostratus, altostratus, altocumulus, nimbostratus, nimbo cumulus, and cumulonimbus)? Use the text to support your answer.*

1. Students will use evidence from the text/ illustrations and cloud cards to show evidence.
2. Students will notice that the words cumulus, stratus, and cirrus are combined with other words to form the 7 additional types of clouds. On page 12, the author states, "There are also many other kinds of clouds. They have longer names because they look like cirrus, cumulus, or stratus clouds mixed together in pairs." Students can work in small groups to compare and contrast the different types of clouds. For example, they can look at a cumulus cloud and compare it to a cirrocumulus cloud while using the text and illustrations as support for their understanding.

**Third Reading Materials**

Students can cut out headings and work collaboratively throughout the read aloud to place the correct headings in the correct spaces.

5-7
8-11
12-17
18
19
20-23
24-28
29-31

Headings

To be cut out or students could cut them out and work to place them in the Table of Contents throughout the read aloud.

Introduction
Three Main Clouds
Other Kinds of Clouds
Long Ago Ideas About Clouds
Fog
Mountain Names for Clouds
Sayings About Clouds and Weather
The Cloud Story

Fourth Reading Materials

This is an example model for classifying the 7 cloud types that would be completed by students in either small groups or whole group.

Cloud Name	Description	Position	Weather
Altostratus	Sheets of gray or blue	Middle of the sky	Rain or snow may fall from them



## Final Day with the Book - Culminating Task

(This task can be broken up into multiple days):

- Prompt: The students will create a cloud book that will provide descriptions of the main types of clouds and what each cloud can provide in terms of weather forecasting. Use the “Bank of Words” to assist students with creating this book.
- Criteria of Book:
  - What are the main types of clouds?
  - Use illustrations and adjectives to describe how each cloud looks.
  - Can the weather be forecasted depending on the types of clouds in the sky? What possible weather events can occur when the clouds are present?
  - Students should make a cover to represent the contents of their cloud book.
  - Optional: Students can create a “Table of Contents” for their cloud books with page numbers and cloud type.

### Bank of Words to type for the Cut and Paste/Culminating Task

Directions: Teacher types these words in the same font in random order. Students have to read the words, and then match the three columns of words to the correct cloud type. When they have placed their words on one page for one cloud type, they paste, color and review. Students have their texts in front of them if needed. You could have them make a picture of a person ready for that type of weather somewhere in the picture.

Words for Kinds of Clouds	Words that would describe the cloud types.	Position in the sky
Cirrus	Thin Mare's Tail White Predicts good weather	High
Stratus	Gray Looks like fog "high fogs" predicts mist/drizzle/snow	Low
Cumulus	Thick and puffy Flat bottom Light gray Looks like a cauliflower Predicts light to heavy rain	Low

Sky, Cloud and Land Drawing		Cirrus
High in the sky		White Thin Mare's tail Predicts good weather
Middle of the sky		
Low in the sky		
Land with person ready for the weather.	<i>Child draws a person on the land ready for the weather under the sky with the cloud (in cotton or white crayon) above. Add writing if you want so you know the child understands the relationship between the weather, the sky, the position and the description of the weather.</i>	

## Vocabulary

<p><b>These words merit less time and attention</b> (They are concrete and easy to explain, or describe events/ processes/ideas/concepts/experiences that are familiar to your students )</p>	<p><b>These words merit more time and attention</b> (They are abstract, have multiple meanings, and/or are a part of a large family of words with related meanings. These words are likely to describe events, ideas, processes or experiences that most of your student will be unfamiliar with)</p>
<p>Page 6 – <b>atmosphere</b> – air that surrounds the Earth  Page 9 – <b>mare</b> – a female horse  Page 10 – <b>cauliflower</b> – a vegetable that grows with a white head of flowers  Page 12 – <b>mackerel</b> – a large fish  Page 12 – <b>mouton</b> – sheep  Page 12 – <b>cirrocumulus</b> – small groups of white clouds high in the sky  Page 13 – <b>cirrostratus</b> – thin, white clouds that are high in the sky (look like blankets or sheets)  Page 14 – <b>altostratus</b> – clouds in the middle of the sky that are grey or blue which cause rain or snow  Page 14 – <b>altocumulus</b> – puffy clouds, that are gray or white, which cause drizzle or snow flurries  Page 15 – <b>nimbostratus</b> – heavy, dark clouds that are low in the sky (they cause steady rain or snow)  Page 15 – <b>stratocumulus</b> – low cumulus clouds that look like balls, or rolls, that are dark in color (appear in winter)  Page 15 – <b>cumulonimbus</b> – very tall clouds that appear during a thunderstorm  Page 18 – <b>droplet</b> – a small drop of liquid  Page 27 – <b>lofty ship</b>- a ship with very high sails</p>	<p>Page 8 – <b>cirrus</b> – a thin cloud formed high in the sky  Page 8- <b>cumulus</b> – a thick, puffy cloud with a flat bottom  Page 8 – <b>stratus</b> – a cloud formed low in the sky  Page 11 – <b>drizzle</b> – rain that falls very lightly or as a mist</p>

### **Fun Extension Activities for this Book and other Useful Resources**

1. Day One: The students will conduct an experiment to see if they can create a cloud in a jar. Students will write down observations, analyze what occurred in the jar, and list any questions that they still have about clouds.
2. Day Two: The students will conduct an experiment to see if they can create cumulus clouds that will produce rain in a jar. Students will write down observations, analyze what occurred in the jar, and list any questions that they still have about clouds.
3. Students can conduct daily cloud observations for their city/town for a week. They can draw pictures of the clouds observed and discuss whether or not they were able to forecast the weather (for example, "We observed cumulus clouds and then it rained in the afternoon.").
4. Show the video, "Magic School Bus: Wet All Over." Students can learn more about the water cycle after being introduced to the concepts in this video.

## Note to Teacher

These are examples of two experiments that could accompany this unit:

### My Cloud in a Jar: Experiment

#### Materials Needed:

1. a clear glass jar, with a lid, for every group of two students
2. warm water (approximately  $\frac{1}{2}$  cup for each jar)
3. ice
4. a box of matches
5. black construction paper

#### Teacher Directions:

1. Put students in groups of 2.
2. Pass out a clear glass jar, with a lid, to each group of students.
3. Tape a piece of black construction paper to the back side of each jar.
4. Pour warm water in the bottom of your jar (about  $\frac{1}{2}$  of a cup).
5. Take the lid to each jar and rest it on top of the jar upside down. Put ice on top of the lid.
6. Light a match and drop it into the jar. Replace the lid in the upside down position with ice remaining on top.
7. Watch as a cloud appears! It should move in a circular motion.
8. Open the jar to release the cloud. Students can touch the cloud to see what it feels like!

### Let's Make it Rain!

#### Materials Needed:

1. a clear glass jar for every group of two students
2. water (to fill  $\frac{3}{4}$  of each jar)
3. shaving cream
4. food coloring (two colors)
5. eye droppers (two for each group)

#### Teacher Directions:

1. Put students in groups of 2.
2. Pass out a clear glass jar to each group of students.
3. Fill each jar  $\frac{3}{4}$  of the way with water.
4. Add shaving cream on top of the water in the jar (this resembles a cumulus cloud).
5. Mix water with food coloring and place in each eye dropper (two separate colors).
6. Squeeze water droplets, of both colors, on top of the shaving cream.
7. The "cloud" will eventually begin to "rain" and will change colors in the jar!

## Example of a Cloud Book

This can be a foldable made from construction paper. Under each "flap" students can list the following:

*Pictures were obtained from: [www.windows2universe.org](http://www.windows2universe.org)*

### Cirrus Clouds



### Second Reading Materials

- A thin cloud that is formed high in the sky.
- Also known as "mare's tails."
- Predict good weather.

### Cirrostratus Clouds



### Fourth Reading Materials

- A thin, white cloud that is formed high in the sky.
- Look like blankets or sheets.
- Usually predict a rain or snowstorm.

**Cirrocumulus Clouds****Fourth Reading Materials**

- Small groups of white clouds that are high in the sky.
- Also known as "mackerel sky."
- Appear in winter time to predict cold weather.

**Altostratus Clouds****Fourth Reading Materials**

- Clouds that are located in the middle of the sky.
- They are usually blue or gray.
- Predict rain or snow.

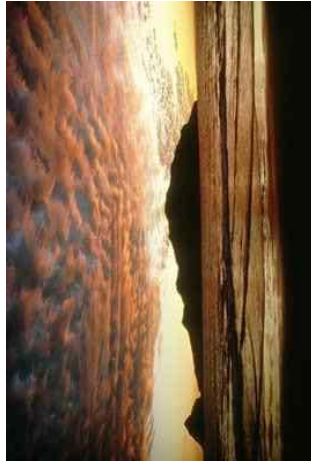
**Alto cumulus Clouds****Fourth Reading Materials**

- Puffy clouds that are gray or white.
- Predict drizzle or snow flurries.



**Stratus Clouds****Second Reading Materials**

- A cloud that is formed low in the sky.
- Gray
- Can look like fog
- Creates light mist or drizzle.

**Stratocumulus Clouds****Fourth Reading Materials**

- Low cumulus clouds that look like balls or rolls.
- Dark in color
- Appear in winter
- Creates light precipitation.

**Nimbostratus Clouds****Fourth Reading Materials**

- Heavy clouds that are low in the sky.
- Dark in color
- Creates steady rain or snow.

**Cumulus Clouds****Second Reading Materials**

- A thick, puffy cloud with a flat bottom.
- Can be light gray in color.
- Look like “cauliflower heads.”
- Predict light to heavy rain showers.

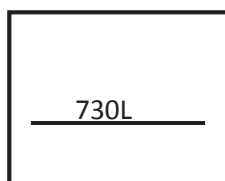
**Cumulonimbus Clouds****Fourth Reading Materials**

- Very large, or tall, clouds.
- Known as “thunderstorm” clouds.
- Predict rain, lightning, tornadoes, hail, and/or snow.

# What Makes This Read-Aloud Complex?

## 1. Quantitative Measure

Go to <http://www.lexile.com/> and enter the title of your read-aloud in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database.



Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the students can read themselves.

2-3 band	420-820L
4-5 band	740-1010L

## 2. Qualitative Features

Consider the four dimensions of text complexity below. For each dimension\*, note specific examples from the text that make it more or less complex.

<ul style="list-style-type: none"> <li>There are 3 major types of clouds.</li> <li>There are myths surrounding cloud shapes.</li> </ul>	<ul style="list-style-type: none"> <li>Informational text with a fun story added</li> <li>Illustrations</li> <li>Inference</li> <li>Text contains facts and fictitious fun</li> </ul>
<b>Meaning/Purpose</b>	<b>Structure</b>
<ul style="list-style-type: none"> <li>Figurative (mythical terms)</li> <li>Moderately complex</li> <li>Phrases take the form of actual weather words</li> </ul>	<ul style="list-style-type: none"> <li>Contains everyday experiences (weather)</li> <li>Discuss type of text</li> <li>Help children understand the relationship between weather and preparation for weather.</li> </ul>
<b>Language</b>	<b>Knowledge Demands</b>

## 3. Reader and Task Considerations

*What will challenge my students most in this text? What supports can I provide?*

- Weather-specific vocabulary
- Lack of structure; text switches from topic to topic

*How will this text help my students build knowledge about the world?*

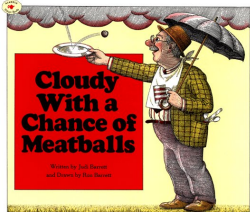
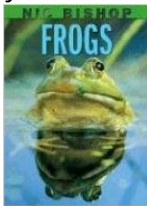
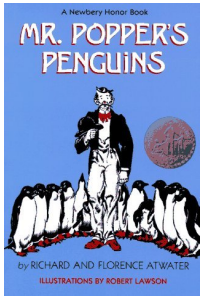
- Introduces/elaborates on weather terms and concepts
- Illustrations depict the differences in cloud types
- Students will be building an understanding of the relationship between the weather, the cloud types, and the preparation for the weather.

\*For more information on the qualitative dimensions of text complexity, visit [http://www.achievethecore.org/content/upload/Companion\\_to\\_Qualitative\\_Scale\\_Features\\_Explained.pdf](http://www.achievethecore.org/content/upload/Companion_to_Qualitative_Scale_Features_Explained.pdf)

# Repeated Close Reading and Culminating Tasks

A culminating task pushes students to demonstrate their comprehension of the key ideas and information presented in the text. A culminating task is rigorous, hinges on a well-crafted prompt, and should require students to write.

Additional Examples of Culminating Tasks:

Text	Culminating Task
<p><i>Cloudy With a Chance of Meatballs</i> by Judi Barrett</p> 	<p>Think about the lists we have made of things that “made life delicious” and the events that caused the characters to abandon the town. Use the graphic organizer your teacher gives you. On the left side of the paper draw a picture showing how life was delicious. Write a sentence (or sentences, depending on the ability of your students) in the space beneath your picture. On the right side draw a picture showing why the people had to leave Chewandswallow, and write your sentence (or sentences) in the space below it. At the bottom, write a complete sentence that explains the lesson the author is trying to teach us.</p>
<p><i>Frogs</i> by Nic Bishop</p> 	<p>Using the information from both charts, write to explain the variety of behavioral and physical characteristics frogs possess for protection and survival within their environments. Include a labeled illustration to support your information. Be sure to introduce your topic, include facts and evidence from the text, and provide a conclusion.</p>
<p><i>Mr. Popper's Penguins</i> by Richard and Florence Atwater</p> 	<p>Prompt: How did Mr. Popper use his knowledge and experiences to help him respond to situations and challenges in his life?</p> <p><u>Day 1:</u> Explain the task to students: In Chapter 16 (pg. 104), Mr. Popper made the statement to Mrs. Popper that “...travel is very broadening.” Even though Mr. Popper had never been out of Stillwater until the family went on the road with the penguins, he was continuously trying to broaden his knowledge and experiences. We are going to find specific examples of things Mr. Popper did in the book to broaden his knowledge and experiences and write about how this helped him respond to situations and challenges in his life.</p> <p><u>Day 2:</u> Work with students to use information gathered in the previous lesson to write a paragraph as a class. Review the chart created on Day 1. Ask students to help you change the focus question into a focus statement (“Mr. Popper’s knowledge and experiences helped him respond to situations and challenges in his life.”) Ask students to use the evidence gathered in the chart to support the focus statement. Write a class conclusion at the end of the paragraph.</p>

## Discussion

Reread the culminating task examples from the sample lesson plans and review the additional tasks listed in your manual. Then, discuss the following questions.

- What do you notice about the various examples? What's similar? What's different?
- What makes a culminating task strong?
- How do culminating tasks support students' comprehension?

## Sample Writing Prompts: *Martin's Big Words*

Read aloud tasks can and should align with and support grade level writing expectations. See the sample writing prompts below, based on *Martin's Big Words* by Doreen Rappaport.

### Opinion

- Dr. Martin Luther King, Jr. used big words. Find a big word in the book that you think describes Dr. King. Use reasons from the story to explain why the big word you chose describes Dr. King.
- Martin's big words made him feel good. Some of his words were "freedom", "peace", "together", and "love". Which one of those words makes you feel good? Choose one of Martin's big words and write your opinion about why that word makes you feel good. Include examples from the text about the big word you choose.
- "Martin's father was a preacher, and he was trying to teach people with his big words. What lesson do you think his big words can teach us? Write your opinion about what Martin wanted us to learn. Use examples from the text to show how you know."

### Informative/Explanatory

- Dr. Martin Luther King, Jr. was an important leader. What are some actions that Dr. King did to be called an important leader? Use key details from the book in your writing.
- The author, Doreen Rappaport wrote her book because she believed Martin was an important person for us to learn about. Explain why Martin was an important person. Use examples from the text to explain how you know.
- The class will compare and contrast Martin Luther King Jr. and Rosa Parks. A suggested text would be *I Am Rosa Parks* by Rosa Parks. Use the following prompt: "Think about Rosa and Martin. Write to compare and contrast their lives. Use examples from both texts."

### Narrative

- Imagine you marched with Dr. Martin Luther King, Jr. Use details from the words and pictures in the book to write a story about marching with Dr. King.
- Imagine you met Martin when he was an adult. What would you do and say? Tell about at least two things you would do together.
- Imagine Martin is still alive and he is visiting your school. What would you want to say or do to show Martin how his big words have changed the world? Tell about meeting Martin in the morning and what the rest of the day would be like.



## Practice: Repeated Reading and Close Reading

Using the model lesson plans as guidance, work with a group to create a plan for repeated close reading of *Martin's Big Words* or *Lon Po Po*, using the template below. Feel free to look back at your analysis and practice from past modules for ideas!

Questions, Activities, Vocabulary, and Tasks	Expected Outcome or Response
FIRST READING:	
SECOND READING:	



THIRD READING:		
FOURTH READING:		
<b>Culminating Task</b>		
<b>Vocabulary</b>		
These words merit less time and attention		These words merit more time and attention



## K-3 Reading Units

The Tennessee Department of Education has released K-3 Reading units as an optional resource for districts as they implement the Tennessee reading standards. The units provide connected lessons that cover multiple standards in ELA and science. These units should be considered as optional resources. These units focus on teaching kindergarten through third grade students to read closely and critically in order to comprehend complex informational text. A variety of strategies are incorporated in these units, including a multi-sensory approach, to give teachers resources to actively engage students in analyzing vocabulary, answering text-dependent questions, and creating diagrams. In the units, students learn to take collaborative notes using a graphic organizer and to use those notes to develop a deeper understanding of the text through writing. These units align to the Tennessee state standards for English language arts and the Tennessee science standards.

The following two units are printed in this manual:

- Grades K-1 Reading Unit – Insects
- Grades 2-3 Reading Unit – Habitats

More units can be found at: [http://tncore.org/english\\_language\\_arts/instructional\\_resources/k-3/readingunits.aspx](http://tncore.org/english_language_arts/instructional_resources/k-3/readingunits.aspx)

## Tennessee Reading Unit for Grades K-1:

### Insects

**Learning Objective:** The goal of this unit is to teach kindergarten and first grade students to read closely and critically in order to comprehend complex informational text. In this unit, the teacher uses a variety of strategies, including a multi-sensory approach, to actively engage students in analyzing vocabulary, answering text-dependent questions and creating diagrams. Students learn to take collaborative notes using a graphic organizer and to use those notes to develop a deeper understanding of the text through the creation of a class book. Discussion and writing exercises help students to construct meaning of the text in a way that “sticks.”

**Reading Tasks:** The first text, “A Bug’s Body,” will be read aloud in its entirety for the first read. The text is then read multiple times (in shorter specific sections). The Lexile level for this text is 630. The second text, “Good Bugs: Some Insects are Helpful to People,” will be read aloud in its entirety for the first read. The text is then read multiple times (in shorter specific sections). The Lexile level for this text is 500. The third text, “Bug Power: Some Insects Work Together in Groups,” will be read aloud in its entirety for the first read. Then the text is read multiple times (in shorter specific sections). The Lexile level for this text is 660. All full texts are included in this unit. The texts are also presented with guiding questions for teachers. All of these texts are located in the Tennessee Electronic Library ([www.tnrel.tn.gov](http://www.tnrel.tn.gov)). The qualitative measure is for the first text is slightly complex. The second and third texts are moderately complex. The qualitative measures were found using the Informational Text Qualitative Rubric found at [http://www.tncore.org/english\\_language\\_arts/curricular\\_resources/text\\_complexity.aspx](http://www.tncore.org/english_language_arts/curricular_resources/text_complexity.aspx).

**Discussion/Language Tasks:** The text is presented and explored orally. Group discussions about the content from the texts form the foundation of the lessons.

**Writing Tasks:** All of the writing tasks for this unit are highly guided and scaffolded. Students learn to take notes using a graphic organizer and use those notes to develop a deeper understanding of the text through the creation of a class book. In kindergarten, students should use a combination of drawing, dictating, and writing. In first grade, students should move toward more independent writing.

**Note:** These units are peer-reviewed and have been vetted for content by experts. However, it is the responsibility of local school districts to review these units for social, ethnic, racial, and gender bias before use in local schools.

## Tennessee State Standards:

Strand	Kindergarten	1st Grade
<b>Reading: Informational Text</b>	<p>RI.K.1 With prompting and support, ask and answer questions about key details in a text.</p> <p>RI.K.2 With prompting and support, identify the main topic and retell key details of a text.</p> <p>RI.K.4 With prompting and support, ask and answer questions about unknown words in a text.</p> <p>RI.K.8 With prompting and support, identify the reasons an author gives to support points in a text.</p>	<p>RI.1.1 Ask and answer questions about key details in a text.</p> <p>RI.1.2 Identify the main topic and retell key details of a text.</p> <p>RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.</p> <p>RI.1.8 Identify the reasons an author gives to support points in a text.</p>
<b>Writing</b>	<p>W.K.1 Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book.</p>	<p>W.1.1 Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply reasons for the opinion, and provide some sense of closure.</p>
<b>Speaking and Listening</b>	<p>SL.K.1a Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).</p> <p>SL.K.2 Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly.</p>	<p>SL.1.1a Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.</p>

		SL.1.6 Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 here for specific expectations.)
<b>Language</b>	L.K.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.	L.1.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 1 reading and content</i> , choosing flexibly from an array of strategies.
<b>Science (TN Science Standards 2009-10)</b>	GLE.0007.1.1 Recognize that many things are made of parts. GLE.0007.2.1 Recognize that some things are living and some are not.	GLE.0107.1.1 Recognize that living things have parts that work together. GLE.0107.2.1 Distinguish between living and non-living things in an environment.

**A Note on the Standards:** This unit is not designed with an emphasis on Foundational Skills Standards. Teachers are encouraged to address any Foundational Skills Standards that they feel are needed or will enhance this unit.

## First Full Text:

### A Bug's Body

Millions of kinds of insects live in the world. An ant is an insect. Every insect's body has three main parts: a head, a thorax, and an abdomen.

#### Head

The ant's head has eyes, mouthparts, and antennae. The antennae are sometimes called "feelers." The ant uses them to smell and feel. That is how the ant learns about its surroundings.

#### Thorax

The thorax is the middle part of the ant's body. The ant's six legs are attached to the thorax.

#### Abdomen

The abdomen is the rear part of the ant's body. The ant digests food in its abdomen.

#### Wings, Stingers, and Jaws

Many insects have wings attached to the thorax. Ladybugs have two hard outer wings and two clear inner wings.

Bees, hornets, and wasps have stingers on the abdomen. If those insects are in danger, they use their stingers to protect themselves.

Grasshoppers have two jaws called mandibles that help the insects chew and grind their food.

#### Source Citation: (MLA 7th Edition)

"A bug's body." *Weekly Reader, Edition 2* [including Science Spin] 4 May 2007. *General OneFile*. Web. 13 Sept. 2013.

Document URL: [http://go.galegroup.com/ps/i.do?id=GALE%7CA163153474&v=2.1&u=tel\\_s\\_tsla&it=r&p=GPS&sw=w](http://go.galegroup.com/ps/i.do?id=GALE%7CA163153474&v=2.1&u=tel_s_tsla&it=r&p=GPS&sw=w)

**Gale Document Number:** GALE|A163153474

## Second Full Text:

### Good Bugs: Some Insects Are Helpful to People

Insects can be trouble. Some bite. Others eat our plants and food. Not all insects bug people, though. Some can be quite helpful.

### Helping Farmers Grow Food

Honeybees help farmers grow crops\*. The bees collect nectar from flowers. Nectar is a sweet liquid. Honeybees use it to make honey. They also collect pollen to eat. Pollen is a yellow powder made by flowers.

As a honeybee flies to each flower, pollen sticks to tiny hairs on the bee's body. The pollen then rubs off onto other flowers. That is when pollination takes place. Pollination helps flowers make seeds. Those seeds grow fruits and nuts.

### Cleaning Up

Termites help recycle dead trees. How? They eat wood. Termites never sleep. They eat all day and night. They use their sharp jaws to break down the wood. That makes room for new plants to grow.

### Rid of Pests

Ladybugs help farmers by eating aphids. Aphids are tiny insects that eat plants. Farmers release\* ladybugs near their crops. The ladybugs eat the aphids. Ladybugs also lay their eggs on the plants. When the eggs hatch\*, the newborn ladybugs start eating aphids too. A ladybug can eat up to 50 aphids each day! That protects crops the farmers grow.

### Source Citation: (MLA 7th Edition)

"Good bugs: some insects are helpful to people." *Weekly Reader, Edition Pre-K* [including Science Spin] May-June 2012: 1+. *General OneFile*. Web. 13 Sept. 2013.

Document URL: [http://go.galegroup.com/ps/i.do?id=GALE%7CA285993785&v=2.1&u=tel\\_s\\_tsla&it=r&p=GPS&sw=w](http://go.galegroup.com/ps/i.do?id=GALE%7CA285993785&v=2.1&u=tel_s_tsla&it=r&p=GPS&sw=w)

**Gale Document Number:** GALE |A285993785

## Third Full Text:

### Bug Power: Some Insects Work Together in Groups

What do termites, ants, and honeybees have in common? They are all social insects. Social insects live together in large groups called colonies. Social insects always have at least one queen. The queen is the mother. She lays the eggs. The rest of the group divides the work.

### Amazing Ants

Ants often live in underground nests. The nests have thousands of rooms connected\* by tunnels. Millions of ants may live together in a nest. It can contain more than one queen. Worker ants take care of all the other ants. Larger worker ants are called soldier ants. Their job is to guard the nest.

### Busy Bees

Life in a honeybee hive\* is busy. Up to 60,000 bees may live together. Only one queen bee lives in a hive. Worker bees do all the chores. They care for the young bees and the queen. They clean and guard the hive and control the hive's temperature. The workers also make food for all the bees in the hive.

### Talented Termites

Termites build tall nests in wood or soil\*. A nest can be up to 40 feet high. Millions of termites may live in one nest. Every colony has a king and a queen. They make the eggs. Worker termites build the nest and care for the eggs. Soldier termites protect the colony.

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**Glossary:**

Crops---plants that are grown by farmers

Release---to set free

Hatch---to come out of an egg

Connected---joined or linked together

Hive---a nest for bees

Soil---loose dirt in which plants grow



## Unit Overview

*This is a suggested timeline in which to teach this unit. Times can be flexible to meet the needs of the students and schedules. Due to the age of the students, all text will be read aloud by the teacher. Teachers are encouraged to display the text while reading aloud. Teachers can project the text, write the text on chart paper, or provide an individual copy. Teachers should use multiple readings of the text using choral and echo reading to promote student engagement with the text. Developmentally appropriate teaching strategies such as pantomime and drawing help make this type of close reading and analysis accessible to young children. Teachers should display pictures of insects to aid in comprehension of the text.*

**Day 1:** Read the first text (“A Bug’s Body”) aloud, in its entirety. Discuss what the text is mostly about.

**Day 2:** Re-read the first text in sections focusing on vocabulary and text dependent questions.

**Day 3:** Re-read the first text. Use the text to draw and label the parts of a bug/insect.

**Day 4:** Read the second text (“Good Bugs”) aloud, in its entirety. Discuss what the text is mostly about.

**Day 5:** Re-read the second text in sections focusing on vocabulary and text dependent questions.

**Day 6:** Re-read the second text. Use the text to explain how insects help people.

**Day 7:** Read the third text (“Bug Power”) aloud, in its entirety. Discuss what the text is mostly about.

**Day 8:** Re-read the third text in sections focusing on vocabulary and text dependent questions.

**Day 9:** Re-read the third text. Use the text to explain how insects help each other.

**Day 10:** Create a t-chart with supporting reasons. Discuss an opinion on the prompt.

**Day 11:** Create a class book that supports the opinion.

## Directions for Teachers

**Day 1:** Read the first text (“A Bug’s Body”) aloud, in its entirety. Discuss what the text is mostly about.

The first read establishes a first familiarity with the text for students. The teacher should read the text prior to the lesson to become familiar with the text and the main idea. This lesson should take approximately 20 minutes.

1. Read the text aloud in its entirety. Read the text straight through, with expression, using tone and volume of your voice to help the students understand each line and to provide some context for inferring unknown words.
2. When you have finished reading, discuss what the text is mostly about (main topic). When discussing the main topic, explain to students that the main topic is what the text is mostly about. You can only find the main topic after you have read.
3. Allow students to share the parts of an insect with a partner.

Text Under Discussion	Kindergarten Sample Teacher Dialogue & Guiding Questions	1st Grade Sample Teacher Dialogue & Guiding Questions
Read the first text, “A Bug’s Body” in its entirety.	After reading the text aloud, ask the students, “What is this mostly about?”  Guide students to what this text is mostly about.  Have students give evidence from the text to support their ideas. Accept all responses but encourage students to return to the text for details.	After reading the text aloud, ask the students, “What is the main topic?”  Guide students to the main topic and include supporting details.  Have students give evidence from the text to support the main topic. Accept all responses but encourage students to return to the text for details.
	<i>Examples of teacher questions that draw students back into the text:</i>	<i>Examples of teacher questions that draw students back into the text:</i>

	<p>“Let me see if we can find that part and read it again.”</p> <p>“How do you know?”</p> <p>“What words in the text make you think that?”</p>	<p>“Let me see if we can find that part and read it again.”</p> <p>“How do you know?”</p> <p>“What words in the text make you think that?”</p>
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**Day 2:** Re-read the first text in sections focusing on vocabulary and text dependent questions. Sample text dependent questions are in the table below. This lesson should take approximately 20 minutes. Teachers may choose to underline or highlight the types of insects named in the texts.

Text Under Discussion	Kindergarten Grade Sample Teacher Dialogue & Guiding Questions	1st Grade Sample Teacher Dialogue & Guiding Questions
<p><b>A Bug's Body</b></p> <p>Millions of kinds of insects live in the world. An ant is an insect. Every insect's body has three main parts: a head, a thorax, and an abdomen.</p> <p><b>Head</b></p> <p>The ant's head has eyes, mouthparts, and antennae. The antennae are sometimes called "feelers." The ant uses them to smell and feel. That is how the ant learns about its surroundings.</p>	<p>Many things are made of parts. What are the three main parts of an insect? Are insects living or non-living things? How do you know?</p> <p>What are antennae? What do they do?</p>	<p>Living things have parts that work together. What are the three main parts of an insect? Are insects living or non-living things? How do you know?</p> <p>How do antennae help the insect?</p>

<p><b>Thorax</b></p> <p>The thorax is the middle part of the ant's body. The ant's six legs are attached to the thorax.</p> <p><b>Abdomen</b></p> <p>The abdomen is the rear part of the ant's body. The ant digests food in its abdomen.</p> <p><b>Wings, Stingers, and Jaws</b></p> <p>Many insects have wings attached to the thorax. Ladybugs have two hard outer wings and two clear inner wings.</p> <p>Bees, hornets, and wasps have stingers on the abdomen. If those insects are in danger, they use their stingers to protect themselves.</p> <p>Grasshoppers have two jaws called mandibles that help the insects chew and grind their food.</p>	<p>Where is the thorax?</p> <p>Where is the abdomen?</p> <p>Where are wings attached? What are wings?</p> <p>Where are stingers? How do insects use stingers?</p> <p>What are mandibles? What do they do?</p>	<p>What is attached to the thorax?</p> <p>What happens in the abdomen? What does digest mean?</p> <p>Where are wings attached? What are wings? Why do you think ladybugs have two different kinds of wings?</p> <p>Where are stingers? How do insects use stingers?</p> <p>What are mandibles? What do they do? How do the parts of the insect work together? Can an insect live without all its parts? Why or why not?</p>
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**Extension Idea:** Teachers may choose to create a list on chart paper of the types of insects named in the texts. This list can serve as a reference for students when writing. Advanced students could write the list themselves. A sample chart is provided below.

Types of Insects							

**Day 3:** Re-read the first text. Use the text to draw and label the parts of a bug/insect. This lesson should take approximately 20 minutes.

1. Re-read the first text.
2. Pantomime the text to further explore the rich language and vocabulary, and assess understanding. When you have finished close reading this section, students can pantomime the text. Have students carve out a section of space for themselves. Tell the students they are going to pantomime (act out) the page they just heard/read. Explain that each student is to stay in his/her own space. Demonstrate, and have students imitate, the parts of an insect by using their bodies.
  - a. Touch head with hands (say “Head”).
  - b. Touch chest (say “Thorax”).
  - c. Touch stomach (say “Abdomen”).
  - d. Flap arms out to the side (say “Wings”).
  - e. Wiggle (say “Stinger”).
  - f. Touch jaw (say “Jaw”).
3. Teacher will model drawing and labeling the parts of an insect on chart paper.
4. Then each student will draw and label the parts of an insect on his/her own paper. Guide students to use the text to help with spelling the words used to label the insect.
5. Students will share their drawing with a partner by pointing to the parts of an insect and reading the labels.

**Day 4:** Read the second text (“Good Bugs”) aloud, in its entirety. Discuss what the text is mostly about.

The first read establishes a first familiarity with the text for students. Teacher should read the text prior to the lesson to become familiar with the text and the main idea. This lesson should take approximately 20 minutes.

1. Read the text aloud in its entirety. Read the text straight through, with expression, using tone and volume of your voice to help the students understand each line and to provide some context for inferring unknown words.
2. When you have finished reading, discuss what the text is mostly about (main topic). When discussing the main topic, explain to students that the main topic is what the text is mostly about. You can only find the main topic after you have read.
3. Allow students to share with a partner the three things insects do that are helpful to people.

Text Under Discussion	Kindergarten Sample Teacher Dialogue & Guiding Questions	1st Grade Sample Teacher Dialogue & Guiding Questions
Read the first text, “Good Bugs” in its entirety.	After reading the text aloud, ask the students, “What is this mostly about?”	After reading the text aloud, ask the students, “What is the main topic?”
	Guide students to what this text is mostly about.	Guide students to the main topic and include supporting details.
	Have students give evidence from the text to support their ideas. Accept all responses but encourage students to return to the text for details.	Have students give evidence from the text to support the main topic. Accept all responses but encourage students to return to the text for details.
	<i>Examples of teacher questions that draw students back into the text:</i>  “Let me see if we can find that part and read it again.” “How do you know?” “What words in the text make you think that?”	<i>Examples of teacher questions that draw students back into the text:</i>  “Let me see if we can find that part and read it again.” “How do you know?” “What words in the text make you think that?”

**Day 5:** Re-read the second text in sections focusing on vocabulary and text dependent questions. This lesson should take approximately 20 minutes.

Text Under Discussion	Kindergarten Grade Sample Teacher Dialogue & Guiding Questions	1 <sup>st</sup> Grade Sample Teacher Dialogue & Guiding Questions
<p><b>Good Bugs: Some Insects Are Helpful to People</b></p> <p>Insects can be trouble. Some bite. Others eat our plants and food. Not all insects bug people, though. Some can be quite helpful.</p> <p><b>Helping Farmers Grow Food</b></p> <p>Honeybees help farmers grow crops. The bees collect nectar from flowers. Nectar is a sweet liquid. Honeybees use it to make honey. They also collect pollen to eat. Pollen is a yellow powder made by flowers.</p> <p>As a honeybee flies to each flower, pollen sticks to tiny hairs on the bee's body. The pollen then rubs off onto other flowers. That is when pollination takes place. Pollination helps flowers make seeds. Those seeds grow fruits and nuts.</p> <p><b>Cleaning Up</b></p> <p>Termites help recycle dead trees. How? They eat wood. Termites never sleep. They eat all day and</p>	<p>What troubling things do insects do?</p> <p>What are crops? What is nectar? What do bees make with nectar? What is pollen?</p> <p>How do honeybees collect pollen? What is pollination? How do honeybees help farmers?</p> <p>What does recycle mean? How do termites help plants? How do termites help farmers?</p>	<p>What troubling things do insects do?</p> <p>What are crops? What is nectar? What do bees make with nectar? What is pollen?</p> <p>How do honeybees collect pollen? What is pollination? How do honeybees help farmers?</p> <p>What does recycle mean? How do termites help plants? How do termites help farmers?</p>



<p>night. They use their sharp jaws to break down the wood. That makes room for new plants to grow.</p> <p><b>Rid of Pests</b></p> <p>Ladybugs help farmers by eating aphids. Aphids are tiny insects that eat plants. Farmers release ladybugs near their crops. The ladybugs eat the aphids. Ladybugs also lay their eggs on the plants. When the eggs hatch, the newborn ladybugs start eating aphids too. A ladybug can eat up to 50 aphids each day! That protects crops the farmers grow.</p>	<p>What are aphids? How are aphids harmful? What does release mean? What does hatch mean? How do ladybugs help crops? How do ladybugs help farmers?</p>	<p>What are aphids? How are aphids harmful? What does release mean? What does hatch mean? How do ladybugs help crops? How do ladybugs help farmers?</p>
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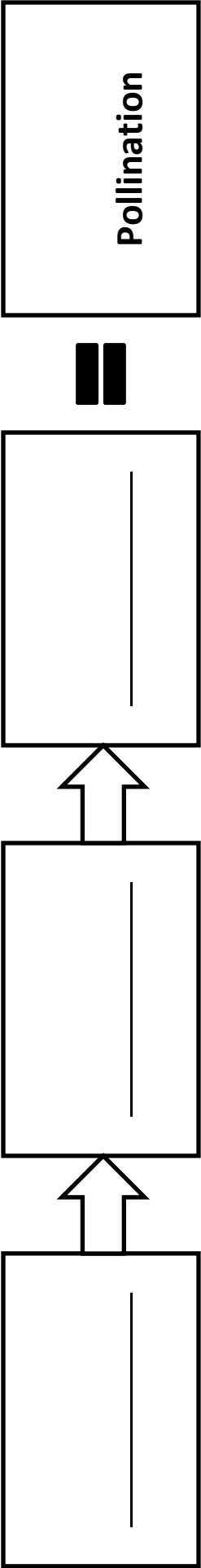
**Extension Ideas:** Several extension activities can be done to help students better understand this text or to challenge students.

1. Teachers may want to make a list (T-chart) of the living and non-living things mentioned in this text. First grade students may be able to write their own lists. A sample T-chart is included below.
2. Teachers can choose one of the examples in the text to create a flow map. For example, they could begin with honeybees landing on flower, gathering pollen, going to another flower and resulting in pollination. A sample flow map is included below. For first grade or advanced students, they could create the flow map on their own.
3. Students can act out or pantomime one of the processes described in the text. For example, they could act out being the honeybee and going from flower to flower during the pollination process.

Extension #1: T-chart of Living and Non-Living Things

Living Things	Non-Living Things

Extension #2: Flow Map for the Pollination Process



**Day 6:** Re-read the second text. Use the text to explain how insects help people. This lesson should take approximately 30 minutes.

1. After re-reading the text, teachers should make a list of the things insects do to help farmers.
2. Make this list on chart paper. Add a title to the list: Things insects do to help people/farmers.
3. Go back into the text to find information/key ideas. When possible, use the words from the text. For example, “Honeybees help farmers grow crops.” Teachers can use complete sentences or just create a list.
4. Give students a copy of the page “Things Insects Do To Help Each People/Farmers” found below. Students can copy the teacher chart onto individual papers. First grade or more advanced students can write independently. For struggling students, see the suggestions at the end of this unit.
5. Students will share their writing with a partner by pointing to the words on the page.

Things Insects Do to Help People

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

**Day 7:** Read the third text (“Bug Power”) aloud, in its entirety. Discuss what the text is mostly about.

The first read establishes a first familiarity with the text for students. Teacher should read the text prior to the lesson to become familiar with the text and the main idea. This lesson should take approximately 20 minutes.

1. Read the text aloud in its entirety. Read the text straight through, with expression, using tone and volume of your voice to help the students understand each line and to provide some context for inferring unknown words.
2. When you have finished reading, discuss what the text is mostly about (main topic). When discussing the main topic, explain to students that the main topic is what the text is mostly about. You can only find the main topic after you have read.
3. Allow students to share the ways insects help each other.

Text Under Discussion	Kindergarten Sample Teacher Dialogue & Guiding Questions	1st Grade Sample Teacher Dialogue & Guiding Questions
Read the first text, “Bug Power” in its entirety.	After reading the text aloud, ask the students, “What is this mostly about?”	After reading the text aloud, ask the students, “What is the main topic?”
	Guide students to what this text is mostly about.	Guide students to the main topic and include supporting details.
	Have students give evidence from the text to support their ideas. Accept all responses but encourage students to return to the text for details.	Have students give evidence from the text to support the main topic. Accept all responses but encourage students to return to the text for details.
	<i>Examples of teacher questions that draw students back into the text:</i>	<i>Examples of teacher questions that draw students back into the text:</i>

	<p>“Let me see if we can find that part and read it again.”</p> <p>“How do you know?”</p> <p>“What words in the text make you think that?”</p>	<p>“Let me see if we can find that part and read it again.”</p> <p>“How do you know?”</p> <p>“What words in the text make you think that?”</p>
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**Day 8:** Re-read the third text in sections focusing on vocabulary and text dependent questions. Sample questions are in the table below. This lesson should take approximately 20 minutes. Teachers may want to lead students in a discussion around the word “social” before starting this lesson. What is social? What does it mean to be social? What are some ways the word social is used?

Text Under Discussion	Kindergarten Grade Sample Teacher Dialogue & Guiding Questions	1st Grade Sample Teacher Dialogue & Guiding Questions
<p><b>Bug Power: Some Insects Work Together in Groups</b></p> <p>What do termites, ants, and honeybees have in common? They are all social insects. Social insects live together in large groups called colonies. Social insects always have at least one queen. The queen is the mother. She lays the eggs. The rest of the group divides the work.</p> <p><b>Amazing Ants</b></p> <p>Ants often live in underground nests. The nests have</p>	<p>What are social insects? What are colonies? What does the queen do? What do the others do?</p> <p>What is a nest? What does the word connected mean? How</p>	<p>What are social insects? What are colonies? What does the queen do? What do the others do?</p> <p>What is a nest? What does the word connected mean? How many</p>

thousands of rooms connected by tunnels. Millions of ants may live together in a nest. It can contain more than one queen. Worker ants take care of all the other ants. Larger worker ants are called soldier ants. Their job is to guard the nest.	many ants can live in a nest? What does the queen do? What do worker ants do? What do soldier ants do? What does guard mean?	ants can live in a nest? What does the queen do? What do worker ants do? What do soldier ants do? What does guard mean?
<b>Busy Bees</b>  Life in a honeybee hive is busy. Up to 60,000 bees may live together. Only one queen bee lives in a hive. Worker bees do all the chores. They care for the young bees and the queen. They clean and guard the hive and control the hive's temperature. The workers also make food for all the bees in the hive.	What is a hive? How many bees can live in a hive? How many queens are there? What do worker bees do? Why do you think it is important to keep the hive clean?	What is a hive? How many bees can live in a hive? How many queens are there? Name 3 things a worker bee does. Why do you think it is important to control the hive's temperature?
<b>Talented Termites</b>  Termites build tall nests in wood or soil. A nest can be up to 40 feet high. Millions of termites may live in one nest. Every colony has a king and a queen. They make the eggs. Worker termites build the nest and care for the eggs. Soldier termites protect the colony.	What is soil? How high can a nest be? How many termites may live in a nest? Both ants and termites have soldiers. What do the soldiers do?	How is a termite nest different from an ant nest? What do worker termites do that is different from worker bees? Both ants and termites have soldiers. What do the soldiers do?

**Extension Ideas:** Several extension activities can be done to help students better understand this text or to challenge students.

1. Teachers can choose one of the examples in the text to create a diagram. For example, students could make a diagram of a hive and label the parts and various types of bees inside.
2. Students can act out or pantomime one of the colonies described in the text. For example, several students could act out the ant nest by pantomiming the different actions/roles of the ants.



**Day 9:** Re-read the third text. Use the text to explain how insects help each other. This lesson should take approximately 30 minutes.

1. After re-reading the text, teachers should make a list of the things insects do to help each other.
2. Make this list on chart paper. Add a title to the list: Things insects do to help each other.
3. Go back into the text to find information/key ideas. When possible, use the words from the text. For example, “Workers take care of the other ants.” Teachers can use complete sentences or just create a list.
4. Give students a copy of the page “Things Insects Do To Help Each Other” found below. Students can copy the teacher chart onto individual papers. First grade or more advanced students can write independently. For struggling students, see the suggestions at the end of this unit.
5. Students will share their writing with a partner by pointing to the words on the page.

Things Insects Do to Help Each Other

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

**Day 10:** Create a T-chart listing the ways in which insects help people and the ways in which insects help each other. The teacher will lead the students in forming an opinion about which is more important. The T-chart is included below. This lesson will take approximately 20 minutes.

1. Use the details from the text and/or the graphic organizers to create the T-chart.
2. Teachers should display the chart by projecting it or creating it on chart paper.
3. For first grade students, teachers may use individual copies of the T-chart and have students add the details themselves or add the details after the teacher models it.
4. Guide students to use the text to help with spelling the words used to complete the chart. Continually refer to the text when adding to the chart.
5. Students will share their graphic organizer with a partner by pointing to the words and reading the words if they created an individual copy. If using a class chart, have the students choral and echo read it.
6. After students have created the chart, the teacher should model the thinking around the opinion prompt and conduct a class discussion. Teachers can display the prompt on chart paper, project it or give students copies to look at.

## Opinion Prompt

Which statement do you agree with and why?

Statement #1: Insects are most helpful to people.

Statement #2: Insects are most helpful to each other.

T-Chart

Things Insects Do to Help People	Things Insects Do to Help Each Other

**Day 11:** Create a class book that gives an opinion and supports the opinion with reasons. This lesson will take about 30 minutes.

1. During a group discussion, work on turning the details from the t-chart into an opinion. Use the prompt to help. Make sure students can see the prompt.
2. Since this is a class book, the teacher will have to lead the class in coming to a consensus on the opinion. Have a class discussion about which opinion in the prompt to support. Teachers may wish to have the class vote on which opinion has the strongest evidence.
3. Decide on a structure for the opinion that makes the most sense based on the reasons.  
For example:
  - Include an introductory sentence that names the topic.
  - State an opinion.
  - 1-2 sentences telling why (reasons). First grade or advanced students may be able to provide 3-4 reasons.
  - First grade needs to include a closing statement/sentence. This can be a simple restatement of the opinion.
4. Since this is a class book, teachers should take dictation from the students for the sentences. Model the thinking and writing. This can be projected or recorded on chart paper.
5. Continuously refer to the t-chart to help with spelling and remind students that the information on the t-chart came from the texts. This is a teacher directed/modeled activity that uses discussion to show students how to organize the writing.
6. Teachers model “talking the writing” before writing each sentence. By “talking the writing” the teacher is giving an oral rehearsal of what will be written. Likewise, after writing each sentence, teachers should go back and re-read each sentence, pointing to each word as it is read aloud. Students can then choral or echo read the sentence.

**Additional extension Ideas:** The class book can be written, typed or duplicated by the teacher. Students can add illustrations to each page. In first grade, teachers may decide to have each student write an individual book. If students write an individual book, students will be able to choose his/her own opinion statement. Students can also be encouraged to type their writing on a computer.

## Support for Struggling Readers and Writers:

Teachers will need to use informal and formative assessment to know the individual needs of his/her students. There are many strategies that can be used with struggling readers to help them access and understand a text. This unit uses reading aloud, asking questions to aid comprehension and define words, repeated readings, choral and echo readings, and creating diagrams to enhance understanding. Further, these units don't include instruction with the Foundational Skills Standards. All students should have direct, explicit instruction with the Foundational Skills Standards daily.

Likewise, there are many strategies that can be used with struggling writers to help them engage in the writing process. Several of these strategies are described below.

1. **Dictation:** The student will plan and/or rehearse what he/she wants to write about orally. Then the student will tell the teacher what he/she wants to write. The teacher will take dictation. After the teacher writes everything the student said, the teacher should then go back and read each word by pointing to it and creating a voice-to-print match. Having the student echo the teacher and point to the words can repeat this process and provide for needed practice.
2. **Thinking Aloud:** While the teacher is writing, the teacher may want to model the *decoding process* by “thinking aloud.” For example, the teacher may model the decoding process by saying, “The next word we need to write is ‘bug.’ Before I can write the word ‘bug,’ I need to think about the sounds in the word ‘bug.’ First I get my mouth ready to say the word. As I say each sound, I tap it on my finger. /b/ /u/ /g/. Bug has 3 sounds. Now I will write each sound that I hear.” The teacher may also want to model using the text to help find the word. (“I remember reading that word in our text. Let’s see if we can go back and find it. We can use the words in the text to help us spell.”)

While the teacher is writing, the teacher may want to model the *writing process* by “thinking aloud.” For example, the teacher may model the processes of starting a sentence with a capital letter by saying, “I know that all sentences begin with a capital letter. So I am going to start this sentence with a capital (name the letter).” The teacher may also want to model things such as spacing between words, ending punctuation, and scrolling from left to right while taking dictation. These are all parts of the writing process that may need to be modeled for struggling writers.

3. **Sentence Frames and Stems:** Sentence frames provide struggling writers with scaffolds and structure to help ease the writing process. In a sentence frame, some words are given to students with only a word or two missing for students to complete. The missing words can be substituted with a blank line. For example, in the prompt, “How do insects help people?” a sentence frame could look like: Insects help people by \_\_\_\_\_ and \_\_\_\_\_.

Sentence stems usually provide the beginning of the sentence for students and then encourages students to finish the sentence on his or her own. Sentence stems usually don’t include blank lines. This encourages students to use more than one word to complete the sentence and include the ending punctuation. For example a sentence stem from the above example could look like: Insects help people by...

4. **Clapping and Drawing Lines for Each Word:** In this scaffold, the teacher models how to clap one time for each word in the sentence. Then, the teacher draws a line for each word in the sentence. Finally the student writes each word on the line. If students aren’t able to write the whole word, students should be encouraged to write the beginning sound for each word. For example, if the student says the sentence is “Insects helping people is important.” The teacher would clap 5 times and draw 5 lines on the paper. The student would then write the words/sounds. Students should be encouraged to clap with the teacher and eventually learn to clap the words on his/her own. Likewise, the students should be encouraged to eventually draw the lines for each word on his/her own.

## Tennessee Reading Unit for Grades 2-3:

### Habitats

**Learning Objective:** The goal of this unit is to teach 2<sup>nd</sup> and 3<sup>rd</sup> grade students to read closely and critically in order to comprehend complex informational text. In this unit, the teacher uses a variety of strategies to actively engage students in analyzing vocabulary, answering text-dependent questions, and summarizing the text. Students learn to take notes using a graphic organizer and to use those notes to develop a deeper understanding of the text. Discussions and writing exercises help students to construct meaning of the texts in a way that “sticks.”

**Reading Tasks:** The first text, “Visit a Coral Reef: Learn About This Busy Ocean Habitat” will be read aloud in its entirety for the first read. The text is then read multiple times (in shorter specific sections) with guiding questions for teachers. The second text, “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” will be read aloud in its entirety for the first read. The text is then read multiple times (in shorter specific sections). Both full texts are included in this unit. The Lexile Level for “Visit a Coral Reef: Learn About This Busy Ocean Habitat” is 610. The Lexile Level for “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” is 620. These texts are located in the Tennessee Electronic Library ([www.tntel.tnsos.org](http://www.tntel.tnsos.org)). The qualitative measure for both texts is moderately complex, as measured by the Informational Text Qualitative Measures Rubric as found at [http://www.tncore.org/english\\_language\\_arts/curricular\\_resources/text\\_complexity.aspx](http://www.tncore.org/english_language_arts/curricular_resources/text_complexity.aspx).

**Discussion/Language Tasks:** The text is presented and explored orally. Group discussions about the content from the texts form the foundation of the lessons.

**Writing Tasks:** All the writing tasks created for this unit are highly guided and scaffolded. Students learn to take notes using a graphic organizer and to use those notes to develop a deeper understanding of the text. Students create a written summary of “Visit a Coral Reef: Learn About This Busy Ocean Habitat” and “Animals of The Rain Forest: What Creatures Live in This Amazing Place”. Then students write an opinion essay in which they discuss why it is important to protect endangered habitats, citing evidence and examples from both “Visit a Coral Reef: Learn About This Busy Ocean Habitat” and “Animals of The Rain Forest: What Creatures Live in This Amazing Place”.



**Note:** These units are peer-reviewed and have been vetted for content by experts. However, it is the responsibility of local school districts to review these units for social, ethnic, racial, and gender bias before use in local schools.

## Tennessee State Standards:

Strand	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade
<b>Reading: Informational Text</b>	<p><b>RI.2.1</b> Ask and answer such questions as <i>who</i>, <i>what</i>, <i>where</i>, <i>when</i>, <i>why</i>, and <i>how</i> to demonstrate understanding of key details in a text.</p> <p><b>RI.2.2</b> Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text.</p> <p><b>RI.2.3</b> Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</p> <p><b>RI.2.4</b> Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p><b>RI.2.9</b> Compare and contrast the most important points presented by two texts on the same topic.</p> <p><b>RI.2.10</b> By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p>	<p><b>RI.3.1</b> Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</p> <p><b>RI.3.2</b> Determine the main idea of a text; recount the key details and explain how they support the main idea.</p> <p><b>RI.3.3</b> Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</p> <p><b>RI.3.4</b> Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 3 topic or subject area</i>.</p> <p><b>RI.3.9</b> Compare and contrast the most important points and key details presented in two texts on the same topic.</p> <p><b>RI.3.10</b> By the end of the year read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.</p>
<b>Writing</b>	<b>W.2.1</b> Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking	<p><b>W.3.1</b> Write opinion pieces on topics or text, supporting a point of view with reasons.</p> <p>a. Introduce the topic or text they are writing about,</p>

	<p>words (e.g. because, and also) to connect opinion and reasons, and provide a concluding statement or section.</p> <p><b>W.2.2</b> Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.</p>	<p>state an opinion, and create an organizational structure that lists reasons.</p> <p>b. Provide reasons that support the opinion.</p> <p>c. Use linking words and phrases (e.g. because, therefore, since, for example) to connect opinion and reasons.</p> <p>d. Provide a concluding statement or section.</p> <p><b>W.3.2</b> Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p>a. Introduce a topic and group related information together; including illustrations when useful to aiding comprehension.</p> <p>b. Develop the topic with facts, definitions, and details.</p> <p>c. Use linking words and phrases (e.g. also, another, and, more, but) to connect ideas within categories of information.</p> <p>d. Provide a concluding statement or section.</p>
<b>Speaking and Listening</b>	<p><b>SL.2.1</b> Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.</p> <p><b>SL.2.2</b> Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</p>	<p><b>SL.3.1</b> Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <p><b>SL.3.2</b> Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p>
<b>Language</b>	<p><b>L.2.1</b> Demonstrate command of the conventions of standard English grammar and usage when writing.</p> <p><b>L.2.2</b> Demonstrate command of the conventions of</p>	<p><b>L.3.1</b> Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p>

	<p>standard English capitalization, punctuation, and spelling when writing.</p> <p><b>L.2.4a</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.</p>	<p><b>L.3.2</b> Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p><b>L.3.4a</b> Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.</p>
<p><b>Science (TN Science Standards 2009-10)</b></p>	<p><b>GLE.0207.2.2</b> Investigate living things found in different places.</p> <p><b>GLE.0207.2.3</b> Identify basic ways that plants and animals depend on each other.</p> <p><b>GLE.0207.3.1</b> Recognize that animals eat plants or other animals for food.</p>	<p><b>GLE.0307.2.2</b> Explain how organisms with similar needs compete with one another for resources.</p> <p><b>GLE.0307.3.1</b> Describe how animals use food to obtain energy and materials for growth and repair.</p> <p><b>GLE.0307.5.1</b> Explore the relationship between an organism's characteristics and its ability to survive in a particular environment.</p> <p><b>GLE.0307.5.2</b> Classify organisms as thriving, threatened, endangered or extinct.</p>

**A Note on the Standards:** This unit is not designed to emphasize Foundational Skills Standards. Teachers are encouraged to address any Foundational Skills standards that they feel are needed or will enhance this unit.

## First Full Text:

### Visit A Coral Reef: Learn About This Busy Ocean Habitat

Under the sea many creatures live in coral reefs. A coral reef is a warm ocean habitat. It is built by thousands of tiny sea animals. They are called coral polyps. They build hard skeletons around themselves. When polyps die, their skeletons are left behind. Young polyps grow on top of the old skeletons. In time, those skeletons form coral reefs.

Coral reefs are home to many ocean animals. They rely on the reefs for shelter and food. Here are just a few of those animals.

#### Dugong

Dugongs live near some coral reefs. They are gentle ocean mammals. They move slowly and graze on sea grasses. That is why they are often known as sea cows.

Dugongs are endangered. That means they are at risk of dying out. People hunt dugongs for their meat. Sometimes the animals get caught in nets used for fishing. Pollution\* also hurts dugongs.

#### Green Sea Turtle

Green sea turtles are often found near coral reefs. The turtles are named for the green color of their skin. They eat sea grasses.

Green sea turtles are endangered. People hunt them for their meat and eggs. The turtles also get trapped in fishing nets. Another threat is pollution.

#### Clown Fish

Clown fish are orange and white. They live near sea anemones. Sea anemones are animals that look like plants. They are poisonous to other fish. Clown fish have a slimy coating on their skin. That protects them from the poison.

Sea anemones keep clown fish safe. Other fish may get stung if they get caught in a sea anemone. Those fish become food for the sea anemone. Clown fish eat the leftovers.

## Octopus

Some octopuses live near coral reefs. An octopus has eight arms. They are called tentacles. Each tentacle has suction cups. The suction cups help an octopus hold on to food, such as crab and shrimp.

An octopus is a master of disguise. It can change color and texture. That helps it blend in with its surroundings. It can also change shape and squeeze into very small spaces. How? An octopus has a soft body and no bones.

Many people are working to save dugongs and green sea turtles. Why might it be important to save those animals?

## Protecting a Coral Reef

Coral reefs are in danger. They face threats from pollution and fishing. Ships that drop anchors on the reefs can damage them.

The Australian government wants to protect coral reefs. It recently announced plans to create the world's largest marine reserve. That is an area of ocean that is protected by law. It limits fishing in the area. Under the plan, people would not be allowed to explore the area for oil or gas.

The new marine reserve will protect animals and plants in the Coral Sea. That includes the Great Barrier Reef, which is the largest group of coral reefs in the world. It is located off the northeast coast of Australia.

## Source Citation: (MLA 7th Edition)

"Visit a coral reef: learn about this busy ocean habitat." *Weekly Reader, Edition Pre-K* [including Science Spin] May-June 2012: SS1+.  
*General OneFile*. Web. 13 Sept. 2013.

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**Gale Document Number:** GALE|A285993787

## Second Full Text:

### Animals of The Rain Forest: What Creatures Live In This Amazing Place?

Tropical rain forests are full of life! They are warm, rainy places with many tall trees. Many kinds of animals are hidden in the thick forests. Here are just a few of them.

#### **Orangutan**

Orangutans are mammals. A mammal is an animal that has hair on its body. Orangutans spend most of their time in trees. They use their long arms to swing from branch to branch. They eat fruit, insects, and birds' eggs. At night, orangutans build sleeping nests in the trees.

#### **Toucan**

Toucans are birds with huge beaks. Their beaks look heavy, but they are actually light. They are also very sharp. Toucans use their beaks to eat fruit. They also eat insects, lizards, and other birds' eggs. Toucans live in the leafy tops of trees. They sleep in holes in trees.

#### **Green Iguana**

Green iguanas are reptiles. A reptile is an animal that has hard, dry skin. Green iguanas are large. They are usually between 4 and 6 feet long. Their tails make up half the length of their bodies! They live and sleep in trees. Their sharp claws help them climb. They eat leaves, flowers, and fruit.

#### **Golden Lion Tamarin**

Golden lion tamarins are mammals. They are named for their orange manes\*. Golden lion tamarins stay in family groups. They live in trees and sleep in tree holes. The animals use their long fingers to collect food. They share food with group members. They eat fruit, insects, and lizards.

## Saving Rain Forests

Tropical rain forests are in danger. They are disappearing. For years, people have been cutting down trees to make room for farms and roads.

Many groups are working to save tropical rain forests. The World Wildlife Fund (WWF) is one of those groups. It works to protect animals and habitats around the world. A habitat is a place in nature where animals and plants live.

"Tropical rain forests are important. They have more plants and animals in them than any other habitat in the world," says Barney Long. He is a WWF rain forest expert. "We help the local people use the forest in a way that does not damage it. We also work to protect the forest from the people who are trying to cut down the trees illegally." Something that is illegal is against the law.

### Source Citation: (MLA 7th Edition)

"Animals of the rain forest: what creatures live in this amazing place?" *Weekly Reader, Edition 2* [including Science Spin] Mar. 2012: 1+. *General OneFile*. Web. 13 Sept. 2013.

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**Gale Document Number:** GALE|A279377777

### Glossary:

Pollution---the action or process of making land, water, or air dirty and not safe

Mane---long, thick hair growing around the neck of a lion



## Unit Overview

*This is a suggested timeline in which to teach this unit. Times can be flexible to meet the needs of the students and schedules. Teachers are encouraged to support the learning of students by using pictures of a coral reef and a rain forest. Further, individual pictures of the animals may be used to support comprehension and understanding.*

- Day 1:** Read the first text (“Visit a Coral Reef: Learn About This Busy Ocean Habitat”) aloud, in its entirety. Discuss what the text is mostly about.
- Day 2:** Re-read the first text in sections focusing on vocabulary and text dependent questions. Take notes using a graphic organizer.
- Day 3:** Students re-read the text silently. Write a brief summary.
- Day 4:** Students re-read the first text silently. Use a graphic organizer to record evidence.
- Day 5:** Read the second text (“Animals of The Rain Forest: What Creatures Live in This Amazing Place?”) aloud in its entirety. Discuss what the text is mostly about.
- Day 6:** Re-read the second text in sections focusing on vocabulary and text dependent questions. Take notes using a graphic organizer.
- Day 7:** Students re-read the second text silently. Write a brief summary.
- Day 8:** Students re-read the second text silently. Use a graphic organizer to record evidence.
- Day 9:** Students use the evidence gathered from both texts to write an opinion piece.
- Day 10:** Continue writing as needed.

*The terms “protect” and “save” are used interchangeably throughout this unit. Likewise, the terms “evidence” and “reasons” are used interchangeably throughout this unit. Teachers can decide how much emphasis to place on these terms based on the needs of the students.*



## Directions for Teachers

**Day 1:** Read the first text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” aloud in its entirety. Discuss what the text is mostly about.

The first read establishes a first familiarity with the text for students. Teachers should read the text prior to the lesson to become familiar with the text and the main idea. This lesson should take approximately 20 minutes.

1. Read the text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” aloud in its entirety. Read the text straight through, with expression, using the tone and volume of your voice to help the students understand each line and to provide some context for inferring the meaning of unknown words.
2. When you have finished reading, discuss what the text is mostly about (main idea). While reading, students should pause and ask themselves, “What is this text mostly about?” Asking this question helps students to take a minute to check and see if they understand what they have read or what was read aloud.
3. The main idea needs to be supported with details. Have the students visualize a table. The table top is the main idea. The legs are the supporting details.
4. Have a discussion about the main idea. The teacher records what the text is mostly about (main idea) using the main idea graphic organizer on a piece of chart paper for later use.
5. Allow students to share the main idea with a partner.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
Read the first text, “Visit a Coral Reef: Learn About This Busy Ocean Habitat” in its entirety.	After reading the text aloud, ask students, “What is this text mostly about?”  Guide students to what this text is mostly about.	After reading the text aloud, ask the students, “What is the main idea?”  Guide students to the main idea and include supporting details.

	<p>Have students give evidence from the text to support their ideas. Accept all responses but encourage students to return to the text for details.</p> <p><i>Examples of teacher questions that draw students back into the text:</i></p> <p>“Why?”  “Where did you see that?”  “What lines in the text support your ideas?”  “Let me see if we can find that part and read it again.”  “How do you know?”  “What words in the text make you think that?”</p>	<p>Have students give evidence from the text to support the main idea. Accept all responses but encourage students to return to the text for details.</p> <p><i>Examples of teacher questions that draw students back into the text:</i></p> <p>“Why?”  “Where did you see that?”  “What lines in the text support your ideas?”  “Let me see if we can find that part and read it again.”  “How do you know?”  “What words in the text make you think that?”</p>
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Main Idea Graphic Organizer (Table with legs)

Main idea:			
Detail:	Detail:	Detail:	Detail:
Conclusion:			

**Day 2:** Re-read the first text in sections focusing on vocabulary and text dependent questions. Take notes using a graphic organizer.

In the second read, the teacher guides students slowly and carefully through the text, prodding their thinking with text-dependent questions. Sample text-dependent questions can be found in the table below. This lesson will take approximately 45 minutes.

1. Begin by re-reading the main idea from the chart paper. Take a few minutes to discuss the main idea of the text and the key details/support using evidence from the text.
2. Today, students will read to find the supporting details for the main idea. These will be the legs of the table.
3. Set the purpose for reading. Students need to know before they read that they are looking for details to support the main idea.
4. Read sections of the text and use the sample questions provided in the table below.
5. Use the main idea graphic organizer to take group notes after each section is read. The teacher may want to write each detail on the chart and then have students copy the chart to provide more support and modeling for students who need it. For students who are more advanced, the teacher may want to allow students to find the details and record them on individual papers independently.
6. Use the notes on the main idea graphic organizer to discuss with a partner.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
<p><b>Visit A Coral Reef: Learn About This Busy Ocean Habitat</b></p> <p>Under the sea many creatures live in coral reefs. A coral reef is a warm ocean habitat. It is built by thousands of tiny sea animals. They are called coral polyps. They build hard skeletons around themselves. When polyps die, their skeletons are left behind. Young polyps grow on top of the old skeletons. In</p>	<p>What is a coral reef? What is a habitat? What sea animals build coral reefs? What are skeletons?</p>	<p>What is a coral reef? How do coral polyps build coral reefs?</p>

<p>time, those skeletons form coral reefs.</p> <p>Coral reefs are home to many ocean animals. They rely on the reefs for shelter and food. Here are just a few of those animals.</p> <p><b>Dugong</b></p> <p>Dugongs live near some coral reefs. They are gentle ocean mammals. They move slowly and graze on sea grasses. That is why they are often known as sea cows.</p> <p>Dugongs are endangered. That means they are at risk of dying out. People hunt dugongs for their meat. Sometimes the animals get caught in nets used for fishing. Pollution also hurts dugongs.</p> <p><b>Green Sea Turtle</b></p> <p>Green sea turtles are often found near coral reefs. The turtles are named for the green color of their skin. They eat sea grasses.</p> <p>Green sea turtles are endangered. People hunt them for their meat and eggs. The turtles also get trapped in fishing nets. Another threat is pollution.</p> <p><b>Clown Fish</b></p> <p>Clown fish are orange and white. They live near sea</p>	<p>What does “rely” mean? How do animals rely on the reef?</p> <p>What are dugongs? What do they eat? What is another name for dugongs? How does the dugong depend on the reef?</p> <p>What does endangered mean? Why are dugongs endangered? What is the relationship between dugongs and the reef?</p> <p>Why are they called green sea turtles? What do green sea turtles eat?</p> <p>Why are green sea turtles endangered?</p>	<p>What does “rely” mean? How do animals rely on the reef?</p> <p>Why are dugongs called sea cows? How does sea grass help the dugong?</p> <p>What does endangered mean? Why are dugongs endangered? What is the relationship between dugongs and the reef?</p> <p>Dugongs and Green Sea Turtles have similar needs. What are they competing for?</p> <p>Why are green sea turtles endangered?</p>
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<p>anemones. Sea anemones are animals that look like plants. They are poisonous to other fish. Clown fish have a slimy coating on their skin. That protects them from the poison.</p> <p>Sea anemones keep clown fish safe. Other fish may get stung if they get caught in a sea anemone. Those fish become food for the sea anemone. Clown fish eat the leftovers.</p> <p><b>Octopus</b></p> <p>Some octopuses live near coral reefs. An octopus has eight arms. They are called tentacles. Each tentacle has suction cups. The suction cups help an octopus hold on to food, such as crab and shrimp.</p> <p>An octopus is a master of disguise. It can change color and texture. That helps it blend in with its surroundings. It can also change shape and squeeze into very small spaces. How? An octopus has a soft body and no bones.</p> <p>Many people are working to save dugongs and green sea turtles. Why might it be important to save those animals?</p> <p><b>Protecting a Coral Reef</b></p> <p>Coral reefs are in danger. They face threats from pollution and fishing. Ships that drop anchors on the reefs can damage them.</p>	<p>Describe sea anemones. Describe clown fish.</p> <p>What do sea anemones eat? What do clown fish eat? In what ways do clown fish depend on sea anemones?</p> <p>What are octopus arms called? What do the suction cups do? What does an octopus eat?</p> <p>What is a disguise? How does this help an octopus?</p> <p>Why are coral reefs in danger? Why is it important to save coral reefs?</p>	<p>Describe how clown fish and sea anemones help each other.</p> <p>What characteristic do clown fish have that help them survive?</p> <p>What are octopus arms called? What do the suction cups do? What does an octopus eat?</p> <p>What characteristic does octopuses have that helps them survive?</p> <p>Why are coral reefs in danger? Why is it important to save coral reefs?</p>
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<p>The Australian government wants to protect coral reefs. It recently announced plans to create the world's largest marine reserve. That is an area of ocean that is protected by law. It limits fishing in the area. Under the plan, people would not be allowed to explore the area for oil or gas.</p> <p>The new marine reserve will protect animals and plants in the Coral Sea. That includes the Great Barrier Reef, which is the largest group of coral reefs in the world. It is located off the northeast coast of Australia.</p>	<p>What is being done to help protect coral reefs?</p> <p>What is a marine reserve? Why are they important?</p>	<p>What is being done to help protect coral reefs?</p> <p>What is a marine reserve? Why are they important?</p>
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**Day 3:** Students re-read the text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” silently. Write a brief summary in collaboration. This lesson will take approximately 45 minutes.

1. Students re-read the first text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” silently. For students who need more practice, support, and scaffolding, the teacher may wish to read along with the students.
2. Before students write, they should “Talk the Writing”. Students will talk through what the text is mostly about (main idea) and the supporting details with a partner using the notes from the main idea graphic organizer. This gives students confidence and helps students to organize their thinking before writing.
3. The teacher will create a chart that details the key points in writing a summary. This chart can become an anchor chart for future summary writing. A sample of the chart is below. Teachers may elaborate on this chart as needed.

**Summary Writing**

1. State the main idea
2. Support with details
3. Sum it up with a conclusion

4. Using the notes from the main idea graphic organizer, students will work collaboratively to write a brief summary. For students who need more support, the teacher may want to talk through the writing steps below and then write the summary on chart paper. Students can then copy the summary. For more advanced students, the teacher may allow them to write the summary independently. Teachers may decide to do this part of the unit in a whole group setting or in small groups to better individualize the learning and support.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
<p>The teacher will use the “Summary Writing” chart and the main idea graphic organizer (table analogy).</p> <ul style="list-style-type: none"> <li>State the main idea</li> </ul>	<p>Model taking the main idea from the graphic organizer and write it as the first sentence in the summary.</p>	Same as second grade
<ul style="list-style-type: none"> <li>Support with details</li> </ul>	<p>Model taking the supporting details from the graphic organizer and write them as the next sentences.</p>	
<ul style="list-style-type: none"> <li>Sum it up with a conclusion</li> </ul>	<p>Model making a conclusion. Give a simple restatement of the main idea.</p>	



**Day 4:** Students re-read the first text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” silently. Use the graphic organizer found below to record reasons/evidence. This lesson will take approximately 45 minutes.

1. Students will re-read the first text “Visit a Coral Reef: Learn About This Busy Ocean Habitat” silently. For students who need more practice, support, and scaffolding, the teacher may wish to read along with the students.
2. Students will use the graphic organizer below to record reasons/evidence for protecting coral reefs. The teacher can begin by asking students “Why is it important to protect (or save) coral reefs?” Go back into the text to find the evidence. Use the words from the text to record evidence/reasons on the graphic organizer. The graphic organizer below allows for three pieces of evidence. Teachers may add more if needed. Teachers can use complete sentences or just write brief notes as evidence. Teachers will need to gauge how much support and scaffolding is needed. Some students may need teachers to model going back into the text. Students may need to highlight or underline the evidence first and then write it on the graphic organizer. More advanced students may be able to find the evidence and record it independently. Teachers may decide to do this part of the unit in a whole group setting or in small groups to better individualize the learning and support.

Why is it important to protect (save) coral reefs?

Evidence (reason) #1:

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Evidence (reason) #2:

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Evidence (reason) #3:

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**Day 5:** Read the second text “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” aloud in its entirety. Discuss what the text is about.

The first read establishes a first familiarity with the text for students. Teachers should read the text prior to the lesson to become familiar with the text and the main idea. This lesson should take approximately 20 minutes.

1. Read the text “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” aloud in its entirety. Read the text straight through, with expression, using the tone and volume of your voice to help the students understand each line and to provide some context for inferring the meaning of unknown words.
2. When you have finished reading, discuss what the text is mostly about (main idea). While reading, students should pause and ask themselves, “What is this text mostly about?” Asking this question helps students to take a minute to check and see if they understand what they have read or what was read aloud.
3. The main idea needs to be supported with details. Have the students visualize a table. The table top is the main idea. The legs are the supporting details.
4. Have a discussion about the main idea. The teacher records what the text is mostly about (main idea) using the graphic organizer on a piece of chart paper for later use.
5. Allow students to share the main idea with a partner.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
Read the second text, “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” in its entirety.	<p>After reading the text aloud, ask the students, “What is this text mostly about?”</p> <p>Guide students to what this text is mostly about.</p>	<p>After reading the text aloud, ask the students, “What is the main idea?”</p> <p>Guide students to the main idea and include supporting details.</p>

	<p>Have students give evidence from the text to support their ideas. Accept all responses but encourage students to return to the text for details.</p> <p><i>Examples of teacher questions that draw students back into the text:</i></p> <p>“Why?”          “Where did you see that?”          “What lines in the text support your ideas?”          “Let me see if we can find that part and read it again.”          “How do you know?”          “What words in the text make you think that?”</p>	<p>Have students give evidence from the text to support the main idea. Accept all responses but encourage students to return to the text for details.</p> <p><i>Examples of teacher questions that draw students back into the text:</i></p> <p>“Why?”          “Where did you see that?”          “What lines in the text support your ideas?”          “Let me see if we can find that part and read it again.”          “How do you know?”          “What words in the text make you think that?”</p>
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Main Idea Graphic Organizer (Table with legs)

Main idea:			
Detail:	Detail:	Detail:	Detail:
Conclusion:			

**Day 6:** Re-read the second text in sections focusing on vocabulary and text dependent questions. Take notes using a graphic organizer.

In the second read, the teacher guides students slowly and carefully through the text, prodding their thinking with text-dependent questions. Sample text-dependent questions can be found in the table below. This lesson will take approximately 45 minutes.

1. Begin by re-reading the main idea from the chart paper. Take a few minutes to discuss the main idea of the text and the key details/support using evidence from the text.
2. Today, students will read to find the supporting details for the main idea. These will be the legs of the table.
3. Set the purpose for reading. Students need to know before they read that they are looking for details to support the main idea.
4. Read sections of the text and use the sample questions provided in the table below.
5. Use the main idea graphic organizer to take group notes after each section is read.
6. Use the notes to discuss the main idea and supporting details with a partner.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
<p><b>Animals of The Rain Forest: What Creatures Live in This Amazing Place?</b></p> <p>Tropical rain forests are full of life! They are warm, rainy places with many tall trees. Many kinds of animals are hidden in the thick forests. Here are just a few of them.</p> <p><b>Orangutan</b></p> <p>Orangutans are mammals. A mammal is an animal that has hair on its body. Orangutans spend most of</p>	<p>What is a rain forest?</p> <p>What is a mammal? What do orangutans eat? How does the orangutan depend on the rain forest?</p>	<p>Describe a rain forest.</p> <p>What is a mammal? What characteristics does an orangutan have that helps it survive?</p>

<p>their time in trees. They use their long arms to swing from branch to branch. They eat fruit, insects, and birds' eggs. At night, orangutans build sleeping nests in the trees.</p> <p><b>Toucan</b></p> <p>Toucans are birds with huge beaks. Their beaks look heavy, but they are actually light. They are also very sharp. Toucans use their beaks to eat fruit. They also eat insects, lizards, and other birds' eggs. Toucans live in the leafy tops of trees. They sleep in holes in trees.</p> <p><b>Green Iguana</b></p> <p>Green iguanas are reptiles. A reptile is an animal that has hard, dry skin. Green iguanas are large. They are usually between 4 and 6 feet long. Their tails make up half the length of their bodies! They live and sleep in trees. Their sharp claws help them climb. They eat leaves, flowers, and fruit.</p> <p><b>Golden Lion Tamarin</b></p> <p>Golden lion tamarins are mammals. They are named for their orange manes*. Golden lion tamarins stay in family groups. They live in trees and sleep in tree holes. The animals use their long fingers to collect food. They share food with group members. They eat fruit, insects, and lizards.</p>	<p>How does a toucan use its beak? What do they eat? How does the toucan depend on the rain forest?</p> <p>What is a reptile? What do green iguanas eat? How does the green iguana depend on the rain forest?</p> <p>What is a mane? What are family groups? What do they eat? How do they depend on the rain forest?</p>	<p>Do orangutans and toucans have similar needs? What are they? What characteristics do toucans have that help them survive?</p> <p>What food do orangutans, toucans and iguanas compete for? What characteristics do iguanas have that help them survive?</p> <p>Do tamarins compete with any of the other animals for food? If so, which animals? How do tamarins use their long fingers?</p>
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<p><b>Saving Rain Forests</b></p> <p>Tropical rain forests are in danger. They are disappearing. For years, people have been cutting down trees to make room for farms and roads.</p> <p>Many groups are working to save tropical rain forests. The World Wildlife Fund (WWF) is one of those groups. It works to protect animals and habitats around the world. A habitat is a place in nature where animals and plants live.</p> <p>"Tropical rain forests are important. They have more plants and animals in them than any other habitat in the world," says Barney Long. He is a WWF rain forest expert. "We help the local people use the forest in a way that does not damage it. We also work to protect the forest from the people who are trying to cut down the trees illegally." Something that is illegal is against the law.</p>	<p>Why are rain forests in danger?</p> <p>What is a habitat? (Connect to first text.)</p> <p>Why are rain forests important?</p>	<p>Why are rain forests in danger?</p> <p>What is a habitat? (Connect to first text.)</p> <p>Why are rain forests important?</p>
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**Day 7:** Students re-read the second text silently. Write a brief summary in collaboration. This lesson will take approximately 45 minutes.

1. Students re-read the second text “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” silently. For students who need more practice, support, and scaffolding, the teacher may wish to read along with the students.
2. Before students write, they should “Talk the Writing”. Students will talk through what the text is mostly about (main idea) and the supporting details with a partner using the notes from the main idea graphic organizer. This gives students confidence and helps students to organize their thinking before writing.
3. The teacher will create a chart that details the key points in writing a summary. This chart can become an anchor chart for future summary writing. A sample of the chart is below. Teachers may elaborate on this chart as needed.

**Summary Writing**

4. State the main idea
5. Support with details
6. Sum it up with a conclusion

4. Using the notes from the main idea graphic organizer, students will work collaboratively to write a brief summary. For students who need more support, the teacher may want to talk through the writing steps below and then write the summary on chart paper. Students can then copy the summary. For more advanced students, the teacher may allow them to write the summary independently. Teachers may decide to do this part of the unit in a whole group setting or in small groups to better individualize the learning and support.

Text Under Discussion	2 <sup>nd</sup> Grade Sample Teacher Dialogue & Guiding Questions	3 <sup>rd</sup> Grade Sample Teacher Dialogue & Guiding Questions
<p>The teacher will use the “Summary Writing” chart and the main idea graphic organizer (table analogy).</p> <ul style="list-style-type: none"> <li>• State the main idea</li> <li>• Support with details</li> <li>• Sum it up with a conclusion</li> </ul>	<p>Model taking the main idea from the graphic organizer and write it as the first sentence in the summary.</p> <p>Model taking the supporting details from the graphic organizer and write them as the next sentences.</p> <p>Model making a conclusion. Give a simple restatement of the main idea.</p>	<p>Same as second grade</p>

**Day 8:** Students re-read the second text “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” silently. Use the graphic organizer found below to record reasons/evidence. This lesson will take approximately 45 minutes.

1. Students will re-read the second text “Animals of The Rain Forest: What Creatures Live in This Amazing Place?” silently. For students who need more practice, support, and scaffolding, the teacher may wish to read along with the students.
2. Students will use the graphic organizer below to record reasons/evidence for protecting rain forests. The teacher can begin by asking students “Why is it important to protect (or save) rain forests?” Go back into the text to find the evidence. Use the words from the text to record evidence/reasons on the graphic organizer. The graphic organizer below allows for three pieces of evidence. Teachers may add more if needed. Teachers can use complete sentences or just write brief notes as evidence. Teachers will need to gauge how much support and scaffolding is needed. Some students may need teachers to model going back into the text. Students may need to highlight or underline the evidence first and then write it on the graphic organizer. More advanced students may be able to find the evidence and record it independently. Teachers may decide to do this part of the unit in a whole group setting or in small groups to better individualize the learning and support.

Why is it important to protect (save) rain forests?

Evidence (reason) #1: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Evidence (reason) #2: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Evidence (reason) #3: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Day 9:** Students use the evidence to write an opinion piece. This may take one or two days to complete depending on the individual students and the amount of modeling and support provided by the teacher. Allow for approximately 30 minutes for students to write.

1. The teacher will present the writing prompt. This can be displayed on chart paper, projected or printed for students.

You have just read two articles about endangered habitats. Write an opinion essay about why it is important to protect (save) endangered habitats. Support your opinion with evidence (reasons) and key details from both texts. Remember to follow conventions of Standard English when writing.

2. First the students should think about their opinion. Teachers may need to provide examples of an opinion statement.
3. Next, students should read over the evidence gathered from each text. Read the reasons on the graphic organizers.
4. Before students write, they should “Talk the Writing”. Student will talk through their opinions and evidence (reasons) with a partner. This gives students confidence and helps students to organize their thinking before writing.
5. The teacher will lead students in creating a chart collaboratively with their students. This chart will detail the key points in writing an opinion. A sample of the chart is below.

### Opinion Writing

1. State your opinion
2. Support with reasons
3. Sum it up with a conclusion

6. Using the reasons on the graphic organizers, write an opinion piece. If students wrote evidence in collaboration, they will all have the same evidence. If students wrote evidence on their own, they will most likely have different evidence.
  - Guided Writing for 2<sup>nd</sup> grade: (Looking for about a paragraph in length.)
    1. Introduce the topic. One way to do this is to take the prompt and restate it. An example: “It is important to save endangered habitats because animals and plants are in danger.”
    2. Support with reasons using linking words: write a sentence for each of the ways animals and plants are in danger (2 or 3 sentences)
    3. Sum it up with a conclusion. One way to do this is to restate the opinion. An example: “These are some of the reasons why we should save endangered habitats.”
  - Guided Writing for 3<sup>rd</sup> grade: (Looking for about 2 or 3 paragraphs in length.)
    1. Introduce the topic. One way to do this is to take the prompt and restate it. An example: “It is important to save endangered habitats because animals and plants are in danger.” Then, give brief examples of what reasons will be given.
    2. Create an organization structure around the reasons.
    3. Support with reasons. Use linking words and phrases to connect opinions and reasons.
    4. Sum it up with a conclusion. The conclusion could vary from a simple re-statement to an extension or reflection of some sort.

**Day 10:** Continue writing as needed. The teacher should monitor and give specific feedback to advance student’s writing. As students complete their writing, encourage them to re-read to check their writing for meaning and conventions.

## Possible Writing Extensions:

1. Read writing with a partner and exchange feedback on meaning and conventions.
2. Students can edit and revise their papers on their own, in collaboration with their peers or based on teacher corrections.
3. Student papers can be scored using the rubrics found here: [http://tncore.org/english\\_language\\_arts/assessment/scoring\\_resources/2013-14scoringresources.aspx](http://tncore.org/english_language_arts/assessment/scoring_resources/2013-14scoringresources.aspx)
4. Papers can be published digitally and enhanced with graphics and/or photographs.
5. Students can create a two-column notes graphic organizer that lists the animals from the text and its characteristics. A sample graphic organizer is below.

Writing Extension #3:

Two-Column Notes

Animal	Characteristics



## **Possible Science Extensions for Second Grade:**

1. List ways the plants and animals depend on each other.
2. Recognize animals eat plants or other animals for food. Create a diagram that shows what the animals eat. Use the details from the text. For example: The green sea turtle eats sea grasses.

## **Possible Science Extensions for Third Grade:**

1. Create a list of which animals are competing in each habitat. For example: The dugong and the green sea turtle both eat sea grasses.
2. Describe the relationship between an organism's characteristics and its ability to survive in the habitat. For example: The clown fish has a slimy coating that protects it from the sea anemone poison. The clown fish eats the fish that get stung by the sea anemone.

## **Ways to Support Struggling Readers and Writers:**

This unit is designed to be taught in a whole group setting with many scaffolds and supports throughout. The reading and thinking are modeled through the asking of text dependent questions and repeated readings. The writing is to be modeled by the teacher so that students can co-create or copy the writing. Since students gather the same evidence (reasons) and come up with the same opinion, much of the writing is modeled.

## **Ways to Support Advanced Readers and Writers:**

Throughout this unit, there are examples of places where more advanced students can read or write independently. If students find evidence independently, teachers will need to prepare for this on days 9 & 10 when writing begins. Instead of one opinion with the same evidence, students may have varied opinions and evidence. Advanced students may work through the revision process and publishing process at a more rapid pace.



# **Module 3**

## **Supporting Comprehension through Phonological Awareness**

# Module 3: Supporting Comprehension through Phonological Awareness

## Objectives

- Understand Scarborough's Reading Rope, the critical strands of word recognition, and how phonological study supports word recognition and comprehension.
- Learn and apply strategies for building students' phonological awareness that contextualize language and promote comprehension.

## Standards

RF.1.2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).

- Distinguish long from short vowel sounds in spoken single-syllable words.
- Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

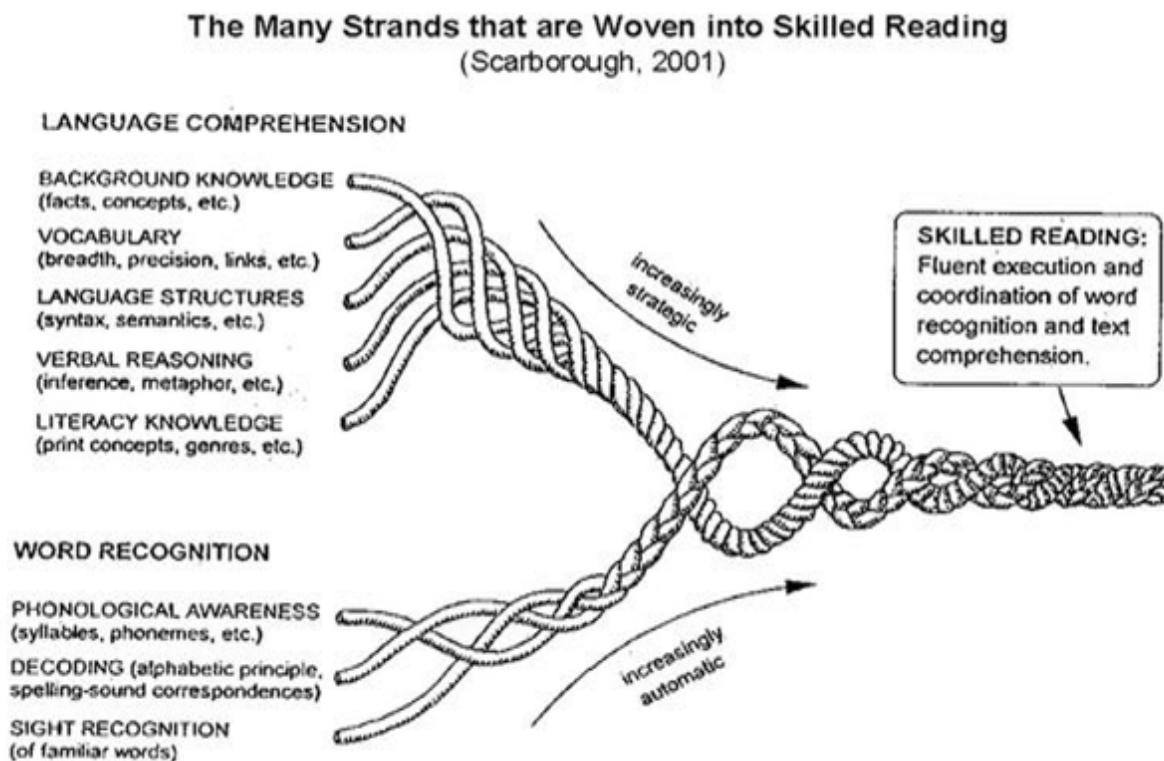
## TEAM Alignment

- Presenting Instructional Content
- Activities and Materials
- Teacher Content Knowledge

# What is Phonological Study?

Phonology is the study of the rule system within a language by which phonemes are sequenced and uttered to make words. Phonological Awareness is a metalinguistic awareness of all levels of the speech sound system, including word boundaries, stress patterns, syllables, onset-rime units, and phonemes.

- Moats, 2010.

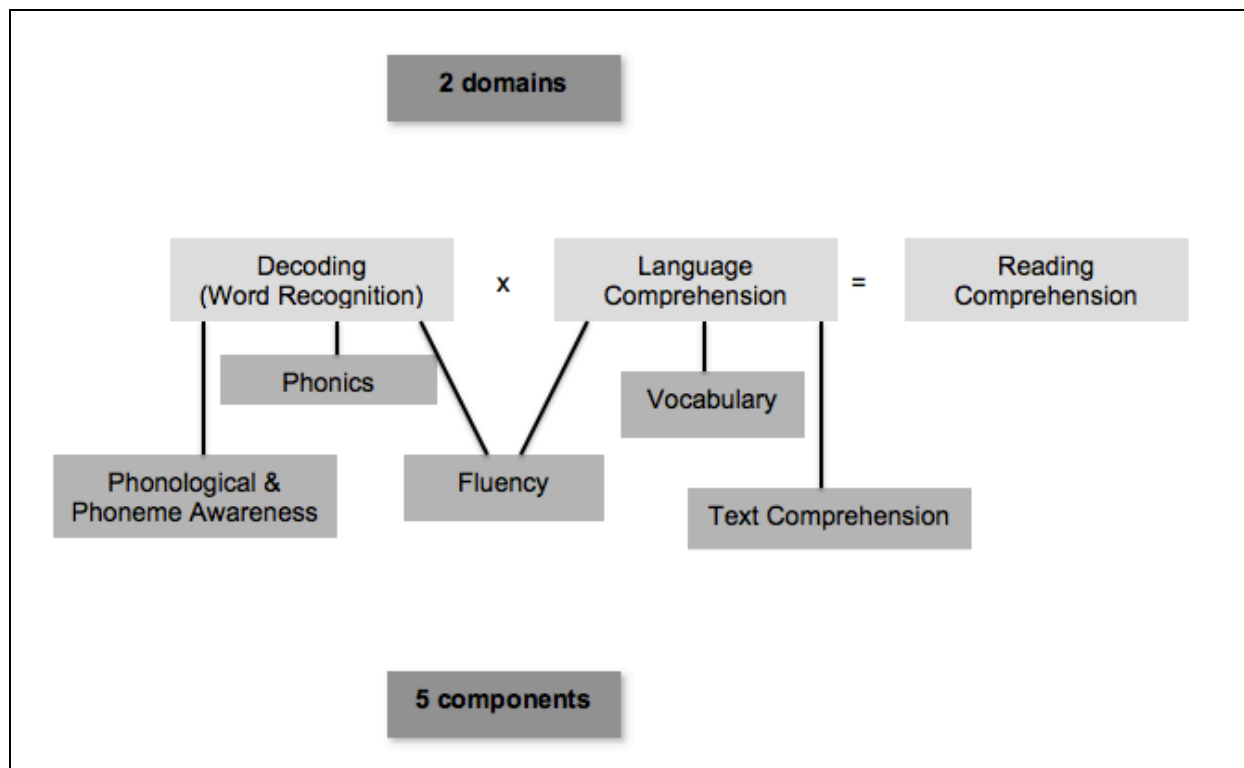


## Discussion

- Think about what you already know about Scarborough's Reading Rope. How does phonological awareness fit in? Why is phonological awareness critical to skilled reading?
- If a student has a gap in phonological awareness, what does their reading and writing look and sound like?

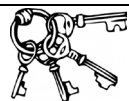
# The Simple View of Reading

Like Scarborough's Reading Rope, the Simple View of Reading is a model of literacy development that helps us understand the importance of word recognition and how it relates to language comprehension and reading comprehension.



## Discussion

- Where do you see Scarborough's Reading Rope in the Simple View of Reading?
- Why does the equation in the Simple View of Reading use a multiplication sign instead of an addition sign?



### Key Idea

Students must read words accurately and fluently to comprehend, and they must understand language in order to comprehend what they decode. If students have a deficit in any of the key components of literacy, they will not be able to comprehend what they read.

## Examples: Strategies for Phonological Study

- Segmentation is the ability to break language down into smaller parts. This skill is needed to become a fluent speller.
- Blending is the ability to take the smaller parts of a language and blend them to make a larger unit. This skill is needed to become a fluent reader.
- Isolation is the ability to identify specific sounds, word parts, or words within a word or sentence.
- Substitution is the ability to isolate and substitute one sound or word for another.

Skill	Strategy
Sentence Segmentation	I am a cat.--Move a cube for each word in the sentence. How many words are in the sentence? What is the sentence?
Syllable Segmentation	Say "market". A market is a place to buy food. How many syllables or parts do you hear in the word market? Move cubes for the syllables you hear in market.
Phoneme Segmentation	Say "cat". The cat purrs when he sits on my lap. Move one cube for each sound you hear in cat. Say the sounds as you move the cubes. /c/ /ă/ /t/ Say the word. How many sounds to you hear in cat?
Phoneme Blending	/z/ /ă/ /p/ -- What's the word? /m/ /ar/ /k/ /ě/ /t/ -- What's the word? Move a cube for each phoneme in the word. Snap the cubes together and say the word.
Phoneme Isolation	Move a chip for each sound you hear in the word "mat." /m/ /ă/ /t/ Scoop your fingers from left to right as you say the word mat. Point to the first chip. What is that sound? Point to the second chip. What is that sound? Point to the third chip. What is this sound?
Phoneme Substitution	Move a chip for each sound you hear in the word "mat." /m/ /ă/ /t/ Scoop your fingers from left to right as you say the word mat. Remove the first chip and change the sound to /k/ as you slide a new chip in the box. What's the new word? Cat.

# Phonological Study and Comprehension

Phonological study is critical in building students' word recognition skill. It can also support students' language comprehension by giving them practice in thinking about words and their meaning. Common strategies for phonological study, such as the ones listed on the previous page, can be easily adjusted to contextualize language and help students understand not just the sounds and words they hear, but the meaning of them as well.

## Phoneme Blending: Activity 1

1. Choose a nursery rhyme, poem, song, etc. that is familiar to students.
2. Choose words ahead of time to use for blending practice as you read.
3. Read the text and have students blend the words you segment as you read the text.

Mary had a little lamb,  
Its fleece was white as /s/ /n/ /ō/;  
And everywhere that Mary went  
The /l/ /ä/ /m/ was sure to go.  
It followed her to school one day,  
Which was against the /r/ /oo/ /l/;  
It made the children /l/ /ä/ /f/ and play  
To see a lamb at school.

### Extension Activities:

- Recite a verse and have students count the number of words in the sentence.
- Have students count and name the syllables in words within the poem.
- Tell students that something happened to the poem and now it doesn't make sense. Students will have to help you identify the sounds that changed and put the right sounds back in the poem. For example, "Its fleece was white as slow." Students must identify that the word "slow" is incorrect, and that the /l/ sound should be replaced with the /n/ sound to make the word "snow".

### How does this activity support comprehension?

By using a familiar piece of language, students have context to help them decipher words. Students may be unfamiliar with words like "lamb", but hearing it repeated within a song or poem builds their knowledge of its meaning and makes them more confident to use or manipulate the word in practice.

## Practice

With a partner, practice this activity with the song below.

Five little monkeys jumping on the bed,  
One fell off and bumped his head.  
Mamma called the doctor and the doctor said,  
"No more monkeys jumping on the bed!"

## Phoneme Blending: Activity 2

1. Give students a set of picture cards that match your word list.
2. Say the phonemes in the first word.
3. Tell students to hold up the picture card that shows that word.
4. Use the word in a sentence.
5. Tell students to take three seconds to think of a sentence using the word and whisper the sentence to a partner.
6. Change one phoneme in the word.
7. Tell students to hold up the picture card that shows that word.
8. Use the word in a sentence.
9. Tell students to take three seconds to think of a sentence using the word and whisper the sentence to a partner.
10. Repeat this routine for several words.

### Sample Word Sequences:

- sat, bat, cat, cab, cub, tub, rub, rib
- song, long, log, hog, hop, stop, step, stem

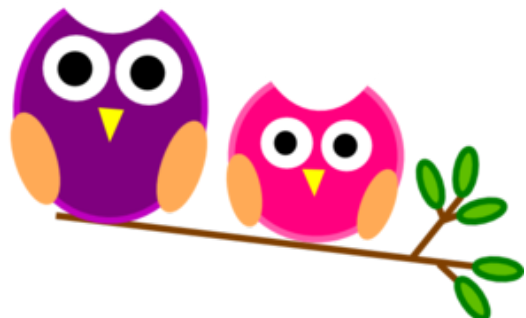
### Extension Activities:

- Use the words in a sentence, segmenting the focus word. For example, "My dog got all muddy playing in the rain, so I gave him a bath in the /t/ /u/ /b/.
- Put students in partners. Have them create sentences using the words, segmenting the key word. Then, their partner finds the matching picture. Or, one partner segments the word, the other blends the word, finds the card, and uses the word in a sentence.
- This activity can also be used for phoneme substitution.

### How does this activity support comprehension?

By asking students to hold up the picture card, students must not only blend the phonemes to form the word, they must also think about the meaning of the word. By hearing the word used in a sentence, and then constructing a sentence of their own, they are putting the word in context.







## Phoneme Segmentation

1. Give students a set of photo cards that match your word list.
2. Find the picture of the cat.
3. How many sounds do you hear in cat?
4. Cut your picture into equal parts for each sound you hear in cat.
5. Say the sounds in cat as you touch one third of the picture.
6. When you say the word, put the picture back together like a puzzle.
7. Repeat this routine for the picture of the bug, bag, back, and bat.

### Extension Activities:

- Collect the cut-out cards and put them in a center. Have students practice blending and segmenting on their own using the cards for support.

### How does this activity support comprehension?

Giving students pictures supports their understanding of the word's meaning.

## Phoneme Segmentation and Substitution

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1. Move a chip for each sound you hear in the word "mat". "I used the mat to wipe my feet before I entered the house."
2. /m/ /ă/ /t/ Scoop your fingers from left to right as you say the word mat.
3. Show a picture of a mat.
4. Give students three seconds to think of a sentence using the word mat and then whisper the sentence to a partner.
5. Remove the first chip and change the sound to /k/ as you slide a new chip in the box.
6. What's the new word?
7. Cat. The cat likes to drink milk.
8. Show a picture of a cat. Hold up the picture of the mat, and point out how by changing one sound the whole meaning of the word changed.
9. Give students three seconds to think of a sentence using the word cat and then whisper the sentence to a partner.

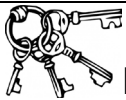
Follow the Phoneme Segmenting and Substitution routine for the words rat—bat, nap—nab, tar—star, art—smart, sad—sand

### How does this activity support comprehension?

Showing pictures and using words in sentences contextualizes language. Explicitly pointing out how changing sounds changes the meaning of words builds students' knowledge of language structure.

## Discussion

- What activities do you use to build students' phonological skill? How could you adjust the activities you're already using to better contextualize language and support comprehension?



### Key Idea

Phonological study is critical in building students' word recognition skill. It can also support students' language comprehension by giving them practice in thinking about words and their meaning. The more contextualized phonological study is, the more it will support students' knowledge of language structure.

## Phonological skills, from most basic to advanced:

Phonological Skill	Description
Word awareness	Tracking the words in sentences. Note: This semantic language skill is much less directly predictive of reading than the skills that follow and less important to teach directly (Gillon, 2004). It is not so much a phonological skill as a semantic (meaning-based) language skill.
Responsiveness to rhyme and alliteration during word play	Enjoying and reciting learned rhyming words or alliterative phrases in familiar storybooks or nursery rhymes.
Syllable awareness	Counting, tapping, blending, or segmenting a word into syllables.
Onset and rime manipulation	The ability to produce a rhyming word depends on understanding that rhyming words have the same rime. Recognizing a rhyme is much easier than producing a rhyme.
Phoneme awareness	<p>Identify and match the initial sounds in words, then the final and middle sounds (e.g., "Which picture begins with /m/?"; "Find another picture that ends in /r/").</p> <p>Segment and produce the initial sound, then the final and middle sounds (e.g., "What sound does <b>zoo</b> start with?"; "Say the last sound in <b>milk</b>"; "Say the vowel sound in <b>rope</b>").</p> <p>Blend sounds into words (e.g., "Listen: /f/ /ē/ /t/. Say it fast").</p> <p>Segment the phonemes in two- or three-sound words, moving to four- and five- sound words as the student becomes proficient (e.g., "The word is <b>eyes</b>. Stretch and say the sounds: /ī/ /z/").</p> <p>Manipulate phonemes by removing, adding, or substituting sounds (e.g., "Say <b>smoke</b> without the /m/").</p>

## Ages at which 80-90% of typical students have achieved a phonological skill:

Age	Skill Domain	Sample Tasks
4	Rote imitation and enjoyment of rhyme and alliteration	<b>pool, drool, tool</b> "Seven silly snakes sang songs seriously."
5	Rhyme recognition, odd word out	"Which two words rhyme: <b>stair, steel, chair?</b> "
	Recognition of phonemic changes in words	" <i>Hickory Dickory Clock</i> . That's not right!"
	Clapping, counting syllables	<b>truck</b> (1 syllable) <b>airplane</b> (2 syllables) <b>boat</b> (1 syllable) <b>automobile</b> (4 syllables)
5½	Distinguishing and remembering separate phonemes in a series	Show sequences of single phonemes with colored blocks: /s/ /s/ /f/; /z/ /sh/ /z/.
	Blending onset and rime	"What word?" <b>th-umb</b> <b>qu-een</b> <b>h-ope</b>
	Producing a rhyme	"Tell me a word that rhymes with <b>car</b> ." ( <b>star</b> )
	Matching initial sounds; isolating an initial sound	"Say the first sound in <b>ride</b> (/r/); <b>sock</b> (/s/); <b>love</b> (/l/)."
6	Compound word deletion	"Say <b>cowboy</b> . Say it again, but don't say <b>cow</b> ."
	Syllable deletion	"Say <b>parsnip</b> . Say it again, but don't say <b>par</b> ."
	Blending of two and three phonemes	/z/ /ū/ ( <b>zoo</b> ) /sh/ /ō/ /p/ ( <b>shop</b> ) /h/ /ou/ /s/ ( <b>house</b> )
	Phoneme segmentation of words that have simple syllables with two or three phonemes (no blends)	"Say the word as you move a chip for each sound." <b>sh-e</b> <b>m-a-n</b> <b>l-e-g</b>
6½	Phoneme segmentation of words that have up to three or four phonemes (include blends)	"Say the word slowly while you tap the sounds." <b>b-a-ck</b> <b>ch-ee-se</b> <b>c-l-ou-d</b>
	Phoneme substitution to build new words that have simple syllables (no blends)	"Change the /j/ in <b>cage</b> to /n/. Change the /ā/ in <b>cane</b> to /ō/."
7	Sound deletion (initial and final positions)	"Say <b>meat</b> . Say it again, without the /m/. "Say <b>safe</b> . Say it again, without the /f/."
8	Sound deletion (initial position, include blends)	"Say <b>prank</b> . Say it again, without the /p/."
9	Sound deletion (medial and final blend positions)	"Say <b>snail</b> . Say it again, without the /n/. "Say <b>fork</b> . Say it again, without the /k/."



# **Module 4**

## **Supporting Comprehension through Decoding**

# Supporting Comprehension through Decoding

## Objectives

- Understand Scarborough's Reading Rope, the critical strands of word recognition, and how decoding supports word recognition and comprehension.
- Learn and apply strategies for decoding that contextualize language and promote comprehension.

## Standards

RF.1.3. Know and apply grade-level phonics and word analysis skills in decoding words.

- Know the spelling-sound correspondences for common consonant digraphs.
- Decode regularly spelled one-syllable words.
- Know final -e and common vowel team conventions for representing long vowel sounds.
- Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
- Decode two-syllable words following basic patterns by breaking the words into syllables.
- Read words with inflectional endings.
- Recognize and read grade-appropriate irregularly spelled words.

RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words.

- Distinguish long and short vowels when reading regularly spelled one-syllable words.
- Know spelling-sound correspondences for additional common vowel teams.
- Decode regularly spelled two-syllable words with long vowels.
- Decode words with common prefixes and suffixes.
- Identify words with inconsistent but common spelling-sound correspondences.
- Recognize and read grade-appropriate irregularly spelled words.

## TEAM Alignment

- Presenting Instructional Content
- Activities and Materials
- Teacher Content Knowledge

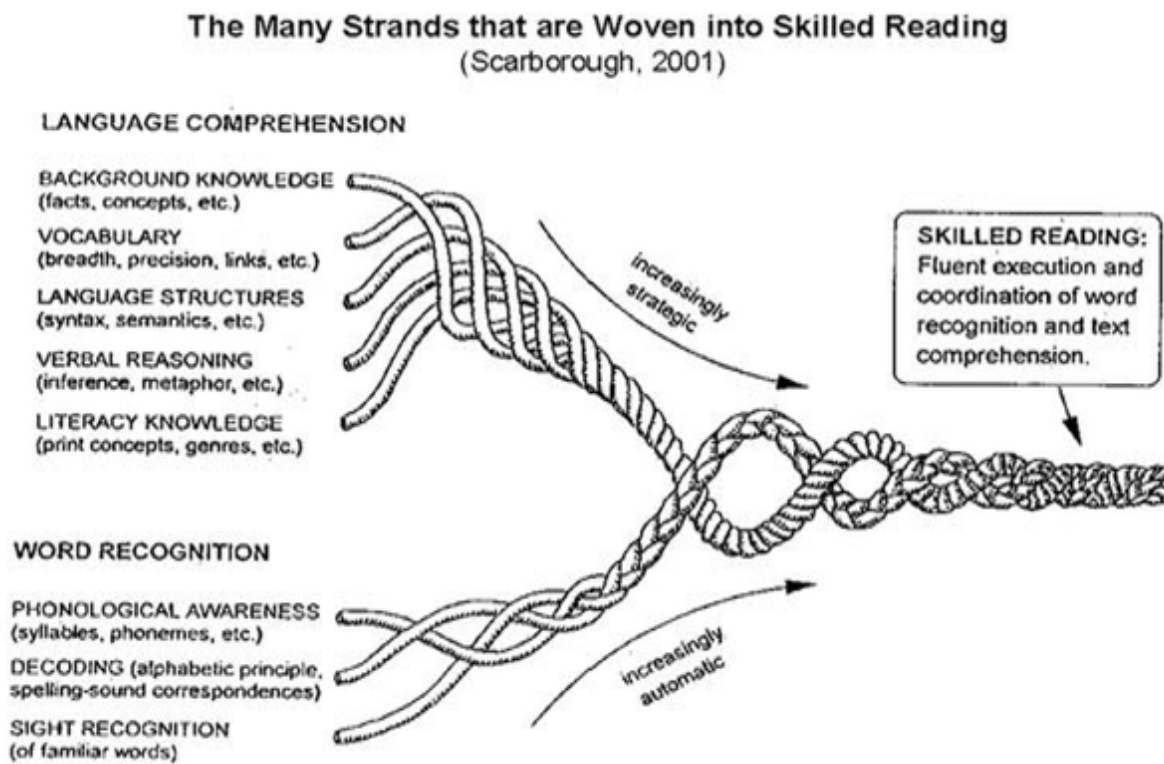


# What is Decoding?

Decoding is the understanding of the relationship between letters and the sounds they represent and the ability to apply knowledge of these letter-sound relationships to correctly read written words.

If students cannot decode words their reading will lack fluency, their vocabulary will be limited, and their reading comprehension will suffer. Teaching higher-level reading strategies to students stuck at the word level is ineffective and frustrating.

- Reading Horizons, 2014.



## Discussion

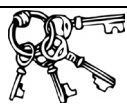
- Given your knowledge of Scarborough's Reading Rope and your own experience as an early grades teacher, why is decoding so important?

# Decoding and Comprehension

Decoding Practice – Long i		
Like	I like animals.	Mike and Kilee are bakers.
Time	It's time to go.	They bake all the time. Mike
Lime	I ate a lime.	likes limes, so he bakes lime
Rice	We had rice at lunch.	pies. Kilee likes rice, so she
Fine	I feel fine now.	bakes rice cakes. Mike drives
Size	What size is your shoe?	to the store and Kilee rides
Drives	Dad drives me to school.	with him. They buy lots of
Rides	She rides her bike.	limes and lots of rice. Then
Decide	I can't decide what to do.	they drive home and decide
		the size and shape of their
		pies and cakes. They will
		have a fine time baking them!

## Discussion

- What is similar about these three readings? What is different?
- What will students learn from each of the different readings? What knowledge and skills will they have to apply?



### Key Idea

Phonics should be taught explicitly and systematically. While students can first learn a sound-spelling pattern in isolation, decoding instruction should culminate with students practicing reading words in connected text.

## Example: Five-Day Decoding Plan

Below is one example of how to scaffold decoding instruction from reading sounds in words to reading words in connected text.

<div>Day 1</div>	<div><ul style="list-style-type: none"><li>Introduce the sound-spelling pattern. Explain what sound the letters represent. Model how to decode words.</li><li>Give students a list of decodable words in a grid, like the ones below. Have students cut them out, creating a deck of flash cards.</li></ul><table><tr><td>art</td><td>cart</td><td>yarn</td><td>smart</td></tr><tr><td>start</td><td>sharp</td><td>hard</td><td>large</td></tr></table><ul style="list-style-type: none"><li>The teacher says the word or holds up a picture of the word.</li><li>Students read through their flash cards, find the card with that word, and hold it up.</li><li>The teacher reinforces the correct word ("That's right, the word sharp looks like this, and has the sounds /sh/ /ar/ /p/" while pointing to the letters as she reads the sounds), "Let's use the word sharp in a sentence – The scissors are sharp. Take three seconds to think of your own sentence using the word sharp, and whisper it to your partner."</li><li>The teacher repeats the process for the rest of the words.</li><li>The teacher can ask questions that support learning, such as: How did you know that was the word 'cart'? Which letters in that word make the /ar/ sound? What is the difference between the word 'start' and the word 'smart'? What would happen if we took the letter Rr out of the word cart?</li><li>As independent practice, have students draw a picture on the back of each flash card and write a sentence to go with it.</li><li>Students can practice with their flash cards later or take them home to practice!</li></ul></div>	art	cart	yarn	smart	start	sharp	hard	large
art	cart	yarn	smart						
start	sharp	hard	large						
<div>Day 2</div>	<div><ul style="list-style-type: none"><li>The teacher reviews the sound-spelling pattern and models how to write words with that pattern.</li><li>The teacher says the word or holds up a picture of the word.</li><li>Students write the word (e.g. on paper or a dry erase board).</li><li>Have students think of a sentence using the word and tell the sentence to their partner.</li><li>Students can write their sentence or their partner's sentence.</li><li>The teacher can extend learning by asking students to: Circle the letters that make the /ar/ sound. Find another friend's sentence and read it.</li></ul></div>								

<p><b>Day 3</b></p>	<ul style="list-style-type: none"> <li>• Review the sound-spelling pattern.</li> <li>• Read students a short decodable text that highlights the sound-spelling pattern. Write each line of the text on a sentence strip.</li> <li>• Invite students to find words with the sound-spelling pattern and circle them on the sentence strips.</li> <li>• Rearrange the order of the sentence strips. Reread the mixed-up story and work together to read each sentence and put the story back in order.</li> <li>• Give students a copy of the decodable text. (Make sure each sentence is printed on its own line) Have them read the story with a partner.</li> <li>• Have students cut apart the story into sentences, then work with their partner to reread the sentences and put the story back in order. Students can mix up their story multiple times to create more opportunities for practice.</li> <li>• For students who are ready for a challenge, give them a new text to read then cut out. Students can exchange cut-out texts to get more practice reading words, thinking about the meaning of sentences, and composing coherent stories.</li> <li>• To close, if there's time, have students illustrate the story.</li> </ul>
<p><b>Day 4</b></p>	<ul style="list-style-type: none"> <li>• Review the sound-spelling pattern.</li> <li>• Work with students to create a bank of words that include the sound-spelling pattern. Have students help you spell the words. Discuss the sound-spelling pattern as you write them.</li> <li>• As a class, model how to write a short story using as many words with the sound-spelling pattern as possible.</li> <li>• Give students time to write their own stories.</li> <li>• Collect students' stories and type them up, one on each page.</li> </ul>
<p><b>Day 5</b></p>	<ul style="list-style-type: none"> <li>• Review the sound-spelling pattern.</li> <li>• Pass out students' typed decodable stories from the previous day. Give them time to illustrate their story.</li> <li>• Have students exchange their stories with one another for reading practice.</li> <li>• Collect the stories, bind them to form a book, and put the book in a Decoding Center or in the classroom library for students to read later.</li> </ul>

**How does this activity support comprehension?**

Students constantly practice reading and writing words in the context of sentences and stories. Authoring their own illustrated decodable text is an authentic task.



## Barb's Sharp Car

Barb Carson loved her car.

It was a large, dark blue car.

It had yellow marks on the side that looked like stars.

It was a work of art and it looked sharp.

Barb wanted to take her car for a long drive. She wanted to go to the marsh to watch the sunset.

She started by driving her car past the garden.

Next she darted past the farm and the barnyard.

Then she drove to the food mart. She stopped to get a chocolate bar.

Finally Barb reached the marsh and saw the sunset.

Even though it was dark, it was hard to end her drive. So Barb parked her car and watched the stars.



# Decodable Texts and Comprehension

Decodable texts reinforce the connection between phonics elements and connected text reading. They provide a consistent context for readers to implement letter-sound strategies.

Reading practice in decodable text helps students assimilate previously taught letter-sound correspondences before new ones are introduced. Decodable books provide struggling readers with successful reading experiences that demonstrate the usefulness of phonics instruction.

- Jenkins, 2003.

## Example: The Hen in a Pen

The **hen** was in a **pen**. **Then** there were **ten hens** in the **pen**. What were the **ten hens** doing in the **pen**? They were talking to their friends on the other side of the **fence**.

### Comprehension Questions:

- What is this story about? (main idea)
- What does the word "pen" mean in this story? (vocabulary)
- Listen to this sentence and tell me if it means the same as in our story. *The hen drew a picture with her pen.* Is it the same? How do you know? (vocabulary)
- Where does the story probably happen? What clues in the story help you make an inference about the setting? (background knowledge, inferring)
- How many hens were in the pen at the beginning of the story? How do you know? (language structure)
- What happened between the first sentence and the second sentence? Why do you think that? (inferring using textual evidence)
- Was there one friend, or more than one friend on the other side of the fence? How do you know? (language structure)
- Could this story be real? Why or why not? (genre)

## Practice: Joan and the Toad

Read the decodable text copied below. Then, create a list of comprehension questions you could ask a student.

Joan had a fat toad for a pet. It was a silly toad. It spat if it got angry. The toad sat on the grass to soak up the sun. Then Joan had to bring him back to the cabin. "No," said the toad. With a croak, it spat a big wet lump. Joan had to coax the toad along with fresh bugs. Hop! Hop! The toad got across the road. He went with Joan to the cabin.

- Text retrieved from [www.freereading.net](http://www.freereading.net)

### Comprehension Questions:







# **Module 5**

## **Supporting Comprehension through Sight Recognition**

# Supporting Comprehension through Sight Recognition

## Objectives

- Understand Scarborough's Reading Rope, the critical strands of word recognition, and how sight recognition supports word recognition and comprehension.
- Learn and apply strategies for sight recognition that contextualize language and promote comprehension.

## Standards

RF.1.4. Read with sufficient accuracy and fluency to support comprehension.

- Read grade-level text with purpose and understanding.
- Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
- Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

RF.2.4. Read with sufficient accuracy and fluency to support comprehension.

- Read grade-level text with purpose and understanding.
- Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
- Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

## TEAM Alignment

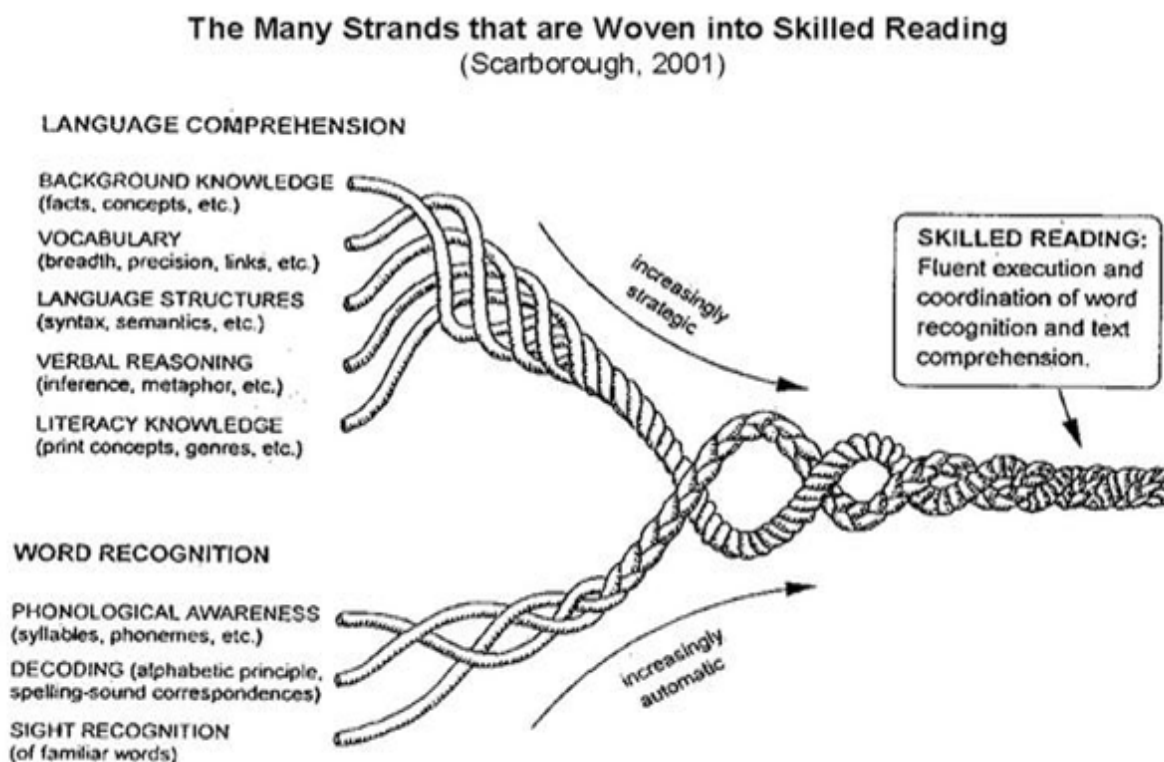
- Presenting Instructional Content
- Activities and Materials
- Teacher Content Knowledge

# What is Sight Recognition?

Sight recognition is the ability to recognize and read familiar, high-frequency words automatically by sight. Students' ability to construct meaning from text is dependent on the rapid, automatic, and effortless recognition of words. If students' focus their cognitive energy on decoding words, their ability to also consider and comprehend text is limited.

In order to read and write fluently with comprehension and meaning, children must be able to automatically read and spell the most frequent words. As the store of words they can automatically read and spell increases, so will their speed and comprehension.

- Cunningham, 2000.



## Discussion

- Given your knowledge of Scarborough's Reading Rope and your own experience as an early grades teacher, why is sight recognition so important?

## Analyze the Academic Standard

RF.1.4 and RF.2.4

Read grade-level text orally with **accuracy**, appropriate **rate**, and **expression** on successive readings.

Component of Fluent Reading	Description	Example
Accuracy		
Rate		
Expression		



## Discussion

- What happens if a reader has rate and expression, but not accuracy?
- What happens if a reader has accuracy and expression, but not rate?
- What happens if a reader has accuracy and rate, but not expression?

# Sight Recognition and Comprehension

Read the description of the instructional strategy below, then discuss the questions with a partner.

## Sight Recognition Routine #1

1. Choose a set of five high-frequency words for practice. Write each word on four different index cards, creating a set of 20 flash cards.
2. Give the student the set of flash cards. Practice reading the cards together.
3. Give the student a grid. Have the student place one card in each square in the grid, like the example below.
4. Using a stopwatch, give students one minute to read as many words as they can. If they get to the end of the grid, have them start over. Tally how many correct words they read.
5. Review any words the student misread.
6. Have the student collect the cards, mix them up, and place them back in the grid, this time in a new order.
7. Repeat the timed reading. After each reading review any misread words and replace them in the grid in a new order. Do this 3-5 times. Keep track of how many words the student reads each time and praise them for improving their rate.

very	where	which	were
which	their	where	which
their	were	were	very
very	where	their	which
where	were	their	very

## Discussion

- Does this instructional routine support a student's reading accuracy?
- Does this instructional routine support a student's reading rate?
- Does this instructional routine support a student's reading expression?
- How could this routine be adapted or supplemented to better support students' sight recognition, reading fluency, and comprehension?

## Sight Recognition Routine #2

1. Select a poem, song, or nursery rhyme that includes many high-frequency words.
2. Write the poem on chart paper and print individual copies for students. Add illustrations if possible to support students' comprehension.
3. Select the high-frequency words you want to teach. Explicitly teach each one to students, then show students where they can find the words in the text. Highlight the words.
4. Model reading the text. Read the text with appropriate rate, accuracy, and expression.
5. Lead students through echo and choral readings of the text.
6. Have students find the high-frequency words and point to them in the poem.
7. Have students read the poem in partners or independently, using their individual copies. Invite students to highlight the high-frequency words on their own pages.
8. Repeat this routine over the course of a couple of days or a week, until students can read the poem on their own fluently.

### One Elephant Went Out to Play

**One** elephant **went out** to play  
Up on a spider's web **one** day.  
He had **such** enormous fun,  
He called for another elephant to **come...** "Oh, ELEPHANT!"

Two elephants **went out** to play  
Up on a spider's web **one** day.  
They had **such** enormous fun,  
They called on another elephant to **come...** "Oh, ELEPHANT!"

*Can repeat with three, four, or five elephants.*

Three elephants **went out** to play  
Up on a spider's web **one** day.  
The web went creak, the web went crack.  
And all of the elephants fell on their back!

## Discussion

- Does this instructional routine support a student's reading accuracy?
- Does this instructional routine support a student's reading rate?
- Does this instructional routine support a student's reading expression?
- How could this routine be adapted or supplemented to better support students' sight recognition, reading fluency, and comprehension?

## Sight Recognition Routine #3

1. Write sentences on sentence strips that include high-frequency words.
2. Explicitly teach students the high-frequency words. Then, read the sentences containing the words.
3. Have students repeat the sentences.
4. Invite students to find the high-frequency words in the various sentences. Highlight the words.
5. Cut the sentence strips apart and mix up the words. This can be done in a pocket card, with magnets on a board, or with tape.
6. Have students read the words, then put the sentence back together in the right order. Once students put the sentence back together, reread the sentence. If the words are put in the wrong order, discuss why the sentence doesn't make sense and how it could be changed.

The children ran **down** the long road.

He went up and **down** the stairs.

She tripped on the rock and fell **down**.

## Discussion

- Does this instructional routine support a student's reading accuracy?
- Does this instructional routine support a student's reading rate?
- Does this instructional routine support a student's reading expression?
- How could this routine be adapted or supplemented to better support students' sight recognition, reading fluency, and comprehension?



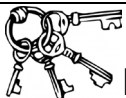
## Additional Sight Recognition Routines

With a group, share routines that you use in your classroom to support students' sight recognition and fluency. After each routine is explained, discuss how it supports students' reading accuracy, rate, and expression. Then, discuss if the routine could be adapted to better support students' sight recognition, fluency, and comprehension.

Routine #4

Routine #5

Routine #6



### Key Idea

Students' ability to construct meaning from text is dependent on the rapid, automatic, and effortless recognition of words. Instructional routines must support students in reading with accuracy, rate, and expression.





# **Module 6**

# **Mathematical Knowledge**

# **For Teaching**

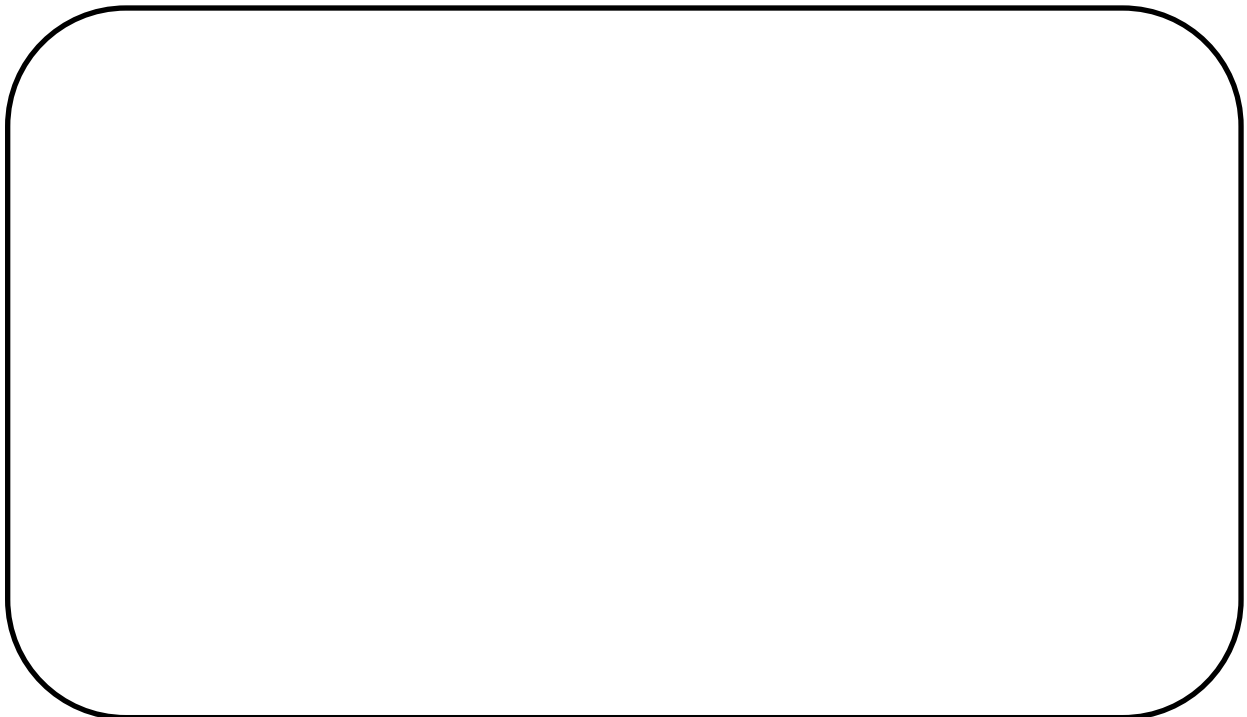
## “The Tapping Game”

1. Everyone needs to choose a partner. Assign one partner to be the “tapper” and one to be the “listener”.
2. Only the tapper will look at the list of round one songs. Choose one that you will tap out on the table top. The “listener’s” job is to try to identify the song.
3. Swap places. Repeat step two with the round two songs.

### Discussion

- What made it difficult to identify the song that was being tapped?
- What could the tapper have done to make it easier for the listener to identify the song?
- What connections can be made between this activity and education?

### Notes: Curse of Knowledge





## Module 6: Mathematical Knowledge for Teaching

Effectively helping others learn is demanding work that necessitates sensibility as well as specialized knowledge and skill.

...conventional content knowledge is insufficient for skillfully handling the mathematical tasks of teaching.

- Thames & Ball, 2010.

### Objective

- Define Mathematical Knowledge for Teaching

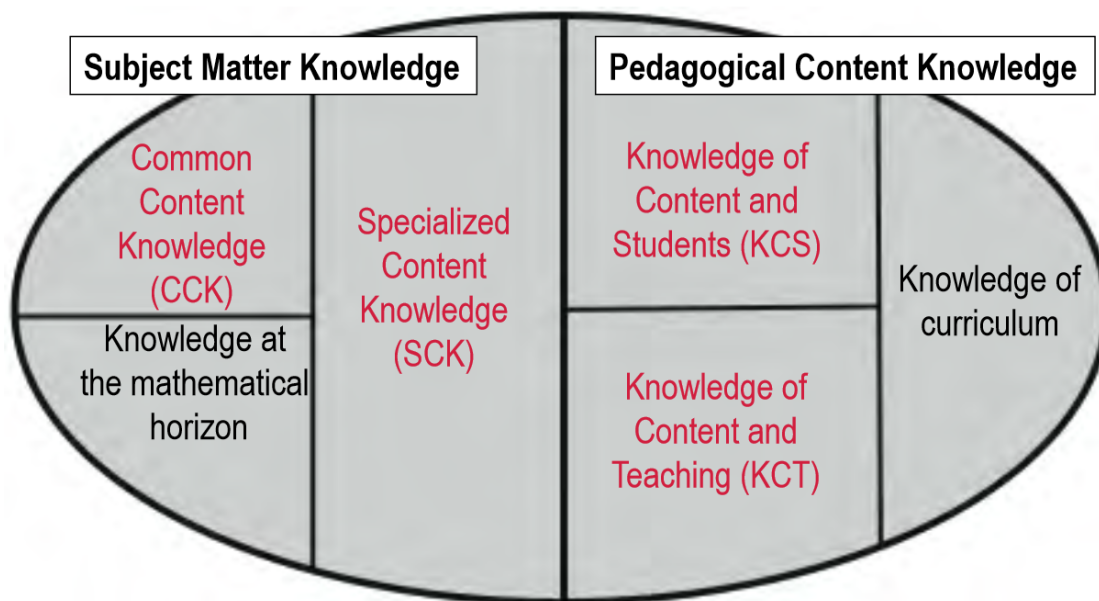
### Standards

The math section of this training focuses on Numbers in Base Ten (NBT). Module 6 introduces key understandings related to Teacher Content Knowledge, and Module 7 then digs into the content of the standards. The related NBT standards are listed in Module 7.

### TEAM Alignment

- Teacher Content Knowledge

# Mathematical Knowledge for Teaching (MKT)



- Thames & Ball, 2010.

## Article Activity

Read the following excerpt from Thames, M.H., & Ball, D. L. (2010). What math knowledge does teaching require? *Teaching Children Mathematics*.

## Discussion

- What are some of the mathematical demands that teachers face in the classroom?
- What is mathematical knowledge for teaching (MKT)?

# What math



November 2010 • teaching children mathematics

[www.nctm.org](http://www.nctm.org)

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# knowledge does teaching require?

By Mark Hoover Thames and Deborah Loewenberg Ball

Effectively helping others learn is demanding work that necessitates sensibility as well as specialized knowledge and skill.

**N**o one would argue with the claim that teaching mathematics requires mathematics knowledge. However, a clear description of such knowledge needed for teaching has been surprisingly elusive (Hill and Ball 2008). To differentiate teachers' levels of mathematical knowledge, numerous studies have examined whether a teacher has a certification in math or a degree as well as the number of math courses taken. But analyses of the correlations between these indicators and students' achievement gains reveal no advantage at the grades K–8 level and only slight advantage at the secondary level. These studies, carried out over the past forty years, do not contradict the assertion that mathematical knowledge matters for teaching math, but they do suggest that conventional content knowledge is insufficient for skillfully handling the mathematical tasks of teaching. Although it seems that majoring in math

should provide an edge in teachers' capacity, it simply does not at the grades K–8 level, and it is an uneven predictor at the high school level.

So what *do* teachers need? Intrigued by the problem of identifying the mathematical knowledge and skill that actually contribute to student learning, we and our colleagues at the University of Michigan directly studied the work of teaching to uncover the mathematical issues that arise in practice. Our conjecture was that by better understanding the mathematical questions and situations with which teachers must deal, we would gain a better understanding of the mathematics it takes to teach.

Over the course of several years, we observed and videotaped teaching in many different classrooms. We set out to identify common teaching tasks, and as we did, we began to see more clearly the mathematical demands of everyday teaching. We saw the math understanding involved in posing questions, interpreting





FIGURE 1

Although the textbook did not suggest it, this teacher used a hundred chart to help her students learn near-ten strategies.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

students' answers, providing explanations, and using representations. We heard it in teachers' talk and in the language they taught their students to use. We realized that the capacity to see mathematical ideas from another's perspective and to understand what another person is doing involves mathematical reasoning and skill not needed for research mathematics or for bench science.

To highlight what our approach yielded, we turn to a lesson in a second-grade classroom where the teacher, Ms. Nash, is using the hundred chart (see fig. 1) to help her students learn near-ten strategies. This constructed vignette was inspired by a video (Rowland et al. 2009).

Nash repeats Rhonda's answer, "So, to add nine to forty-six, you add ten and take away one. Can you show that on the hundred chart?" She offers Rhonda two red magnetic counters, having earlier modeled the process of placing both counters on the starting number and moving one counter to show the steps of the near-ten addition.

This second-grade class has just begun a lesson on adding near-ten numbers (e.g., 9, 11, 19, and 21) by adding a multiple of ten and then adjusting by one. The textbook had not suggested using a hundred chart, but Nash had been using one with her class recently and decided it would help them understand the near-ten strategy.

Having completed several examples, Nash asks Corey to summarize: "Do you think you can explain how we add nine and add eleven?"

Corey comes to the front of the class, and explains, "You add ten, and then you take away or add one."

Nash asks for clarification. "OK. What do you do if you add nine? Do you take away or add?"

Corey responds correctly, "Take away."

Mathematics teaching involves building students' trust, managing behavior, and structuring time and space in ways that are conducive to learning. This requires both pedagogical know-how and interpersonal skills. However, as we see in the episode described above, teaching also makes mathematical demands of the teacher. Some of these demands are predictable, but others are less obvious. What is a near-ten strategy, and what is the mathematical point of teaching it? Is the purpose for students to master the

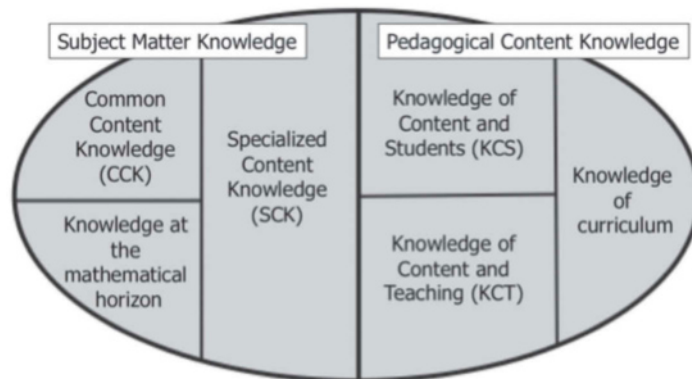
strategy or to increase students' flexibility with computation? Another mathematical issue is to evaluate the appropriateness of the hundred chart. In what ways might this chart support or interfere with the main mathematical point? How might the "wrap-around" of the numbers at the end of each line be handled? Might the chart encourage "diagonal moves" that could be at odds with the place-value emphasis of a near-ten strategy? A third challenge is to determine what mathematics is at the heart of the lesson and to be able to see what aspects of this might be complex for learners. Here, being familiar with children is helpful, but mathematical insight matters, too. What would count as evidence that children understand this particular mathematics and will be successful in using it in the future?

Teachers face such "teaching problems" as these every day. Solving them demands mathematical understanding and flexibility. Beyond being well versed in the content of the curriculum, teachers need significant mathematical skill, perspective, and judgment. For instance, teaching requires being able to answer children's "why" questions: Why do we find common denominators when adding fractions but not when multiplying them? Why do we count the places to the right of the decimal point and add them when we multiply decimals? Our studies of teaching have led us to identify specific tasks of teaching that require mathematical skill. The more we examine teaching, the more we find that teaching well requires an abundance of mathematical skill and of *usable* mathematical knowledge—mathematical knowledge in and for teaching. Consider, for instance, some of the most frequent tasks of teaching:

- **Posing** mathematical questions
- **Giving** and appraising explanations
- **Choosing** or designing tasks
- **Using** and choosing representations
- **Recording** mathematical work on the board
- **Selecting** and sequencing examples
- **Analyzing** students' errors
- **Appraising** students' unconventional ideas
- **Mediating** a discussion
- **Attending** to and using math language
- **Defining** terms mathematically and accessibly
- **Choosing** or using math notation

**FIGURE 2**

*Mathematical knowledge for teaching (MKT) consists of distinguishable domains defined in relation to the work of teaching. Some resources that teaching requires resemble math knowledge used in other settings, **common content knowledge** (CCK). Teachers also need **pedagogical content knowledge** (PCK). But some math knowledge is specialized.*



Based on our analysis of these tasks, we began to see that mathematical knowledge for teaching (MKT) consists of distinguishable domains, each defined in relation to the work of teaching. **Figure 2** represents all the mathematical knowledge important for teaching. One key point is that some of the mathematical resources that teaching requires are similar to the mathematical knowledge used in settings other than classrooms—being able to do particular calculations, knowing the definition of a concept, or making a simple representation, for example. We call this *common content knowledge* (see the top left of **fig. 2**); it is important for such teaching tasks as knowing whether a student's answer is correct, providing students with the definition of a concept or an object, and demonstrating how to carry out a procedure.

Additionally, teachers also need a kind of knowledge that blends content knowledge with pedagogical knowledge, *pedagogical content knowledge*, or PCK (Shulman 1986, 1987; Wilson, Shulman, and Richert 1987). We have subdivided PCK into subdomains that combine knowledge of content with knowledge of students, teaching, and curriculum (see the right side of **fig. 2**).

FIGURE 3

The teacher sketched a table on the whiteboard to organize the four subtraction problems.

<b>Subtract 19</b>	<b>Subtract 11</b>
$70 - 19 = \square$	$70 - 11 = \square$
$70 - 20 + 1 = 51$	$70 - 10 - 1 = 59$
<b>Subtract 9</b>	<b>Subtract 21</b>
$70 - 9 = \square$	$70 - 21 = \square$
$70 - 10 + 1 = 61$	$70 - 20 - 1 = 49$

FIGURE 4

Bass, Shaughnessy, and Louie suggest orienting the hundred chart to better align with the mathematical language of subtraction and addition.

100									
90	91	92	93	94	95	96	97	98	99
80	81	82	83	84	85	86	87	88	89
70	71	72	73	74	75	76	77	78	79
60	61	62	63	64	65	66	67	68	69
50	51	52	53	54	55	56	57	58	59
40	41	42	43	44	45	46	47	48	49
30	31	32	33	34	35	36	37	38	39
20	21	22	23	24	25	26	27	28	29
10	11	12	13	14	15	16	17	18	19
0	1	2	3	4	5	6	7	8	9

However, some mathematical knowledge that teaching entails is *specialized* and not used by others—for example, being able to use the hundred chart to model specific aspects of place value, defining terms in mathematically correct but accessible ways, or being able to make sense of solutions other than one's own. Each of these represents a mathematical task that can be thought about independent of specific students, teaching, or curriculum. We have also become interested in what we call *horizon knowledge*, a domain of MKT that affords a kind of mathematical “peripheral vision” needed in teaching (Ball and Bass 2009). For instance, in the previous episode, Nash is not teaching the standard addition and subtraction algorithms, but she should probably have them in mind and see potential connections. Perhaps, also, knowing something about different base number systems sheds a certain light on the mathematical work being done, but as an added perspective, without its becoming something to teach.

To extend this picture of the mathematical demands of teaching and to see how teacher content knowledge can support high-quality instruction, we return to our second-grade lesson, in which Nash, confident of students' understanding of near-ten addition, introduces subtraction. We sketch two scenarios of how the lesson might play out: one in which teaching and learning go awry and a second in which usable teacher knowledge supports success.

### Finding mathematical pitfalls of mathematics teaching

Nash puts two red markers on the square with the 70 and calls on Chad: “How could we find the answer to seventy minus nineteen?”

He answers, “You want to take away twenty and then take away one.”

Nash repeats his statement but then corrects it. “Not for nineteen. We take away twenty [*she moves the counter from the 70 to the 50*], which is fifty, but then we *add* one [*she moves the counter to the 51*], because we only wanted to take away nineteen, not twenty. So the answer is fifty-one.”

Nash has students count back to verify the answer, anticipating that this will lead them to recognize that subtracting nineteen is accomplished by subtracting twenty and then *adding* one. She reinforces the idea with a second example, seventy minus nine. However, students fumble, guessing at whether to add one or subtract one. When she asks, “How do I take away nine? What do you do first?” Rebecca replies, “Go up one—take away one.”

Nash explains again: “Take away one to take away nine? No. Remember when we added nine, we added ten first of all, so what do you think we might take away here? Simon?”

Simon responds, “Ten.”

“Take away ten; take away ten gives us sixty [*she moves the counter to the 60*], and then what must we do when we're taking away? We're taking away nine here, so we're taking away ten and...?”

[*Simon answers, “Add one,” but he says it hesitantly.*]

Nash continues: “Add one [*moving the counter from the 60 to the 61*]. Which brings us to sixty-one. Right?”

Sensing the students' need for more explicit support, Nash makes a table on the white-



board (see fig. 3), organizing the four cases and giving examples for students to use as they complete the activity sheet for the lesson. Students seem unsure, but they have done several examples together and have the table to guide their work. Nash distributes the activity sheet and sets the students to work, but she seems frustrated and concerned that the children will have difficulty. She seems to have a sense that something is amiss but is unsure what it is or how to recover.

### Using mathematical knowledge in and for teaching

Now imagine instead that Nash considers the mathematical conventions and the everyday conventions that associate “up” and “to the right” with increase. Imagine that she decides to replace the original hundred chart with one that is oriented “upside down” (see fig. 4) to align better with the language of addition (“more”) and subtraction (“less”) with “up,” “down,” “right,” and “left.” (This idea was suggested by Hyman Bass and developed with Meghan Shaughnessy and Nicole Louie in the Elementary Mathematics Laboratory at the University of Michigan.)

Nash continues with subtraction, posing forty-five minus nineteen. She puts two red markers on the 45 on the hundred chart and calls on Chad. He says, “You want to take away twenty and take away one.”

Nash asks Chad to come up and explain his thinking by using the hundred chart. He moves one of the markers down two rows and then moves it to the left, repeating his statement that you first take away twenty and then you take away one, but Nash interjects, “Why do you subtract twenty?”

Chad pauses, then says, “Because twenty is close to nineteen. It’s easy to subtract twenty.”

Nash continues, “And how do you decide whether to add or to subtract one?” Chad replies that you subtract one because it is a subtraction problem.

Nash recognizes that—of all the different problems—this is the most difficult one to reason about: The process of first subtracting twenty and then adding one as a way to “undo” having already subtracted too many is not easy for children to understand. It is mathematically complex. Arithmetically, it



requires “distributing” subtraction across the parenthetical expression:

$$\begin{aligned} 45 - 19 \\ 45 - (20 - 1) \\ 45 - 20 + 1 \end{aligned}$$

Teachers must be able to recognize when key mathematical issues are being addressed and when they are being missed.

Nash pauses before addressing the class:

I want everyone thinking hard about this. [She writes  $45 - 19 =$  on the board.] In order to subtract nineteen, Chad says you first subtract twenty because it is close to nineteen. Do you agree? [Several students respond affirmatively.] What do we do next? Do we subtract one or add one?

Nash again pauses briefly before she continues. “Remember when we were adding nine,

Rhonda explained that you add ten and then subtract one? Who remembers her explanation?”

Nate recalls that Rhonda explained that you subtract one because “you don’t want to add so many as ten, so you have to take one away.”

Nash repeats Nate’s explanation:

Yes, Rhonda said that you need to subtract one—because you added ten but you only want to add nine. You don’t want to add so many. Remember how she showed us on the hundred chart how you want to move to the left because when you move up you added ten, which means you went too far? I want everyone to think about how to subtract nineteen from forty-five on the hundred chart. First you subtract twenty. Then what do you do? Talk with your partner.

While the children talk, Nash listens to their conversations. After a few minutes, she calls the class back together to discuss the ideas. Salvador goes to the hundred chart to explain his thinking. “I think you go to the right because when you go down two [*pointing at the 25*], that’s too many; that’s twenty. When you go down two, you take away all of these [*pointing to the numbers from 45 back to 25*]. That’s twenty, so that’s too many.

Nash asks if someone can explain Salvador’s thinking. Carl explains that Salvador said you have to go to the right “because twenty-five is twenty less than forty-five, so you want to add one back in.”

Jamie agrees, “I think you add one because if you subtract one then you’d be subtracting twenty-one.”

Nash writes the subtraction problem on the board and asks students how she could record the steps Salvador used. The children suggest

using arrows, and she records this as 45, two down arrows, and one arrow to the right (see **fig. 5**). She then asks for another way to write the two down arrows “using numbers and addition and subtraction.” Students decide that the two down arrows would mean “subtract twenty” and that the right arrow would mean “add one.” The class agrees that you end at the 26.

In this second scenario, Nash draws on significant mathematical knowledge and insight to help her manage instruction and direct children’s learning. She recognizes the mathematical challenge in compensating for having subtracted too many. She also recognizes the mathematical problems with the representation of “up” for subtraction in the original hundred chart. She attends to the inadequacy of Chad’s initial explanation and focuses children’s attention on this key mathematical issue for the lesson. And she recognizes the complexity involved in reasoning that the extra “one” must be added, not subtracted, and the need to return students to Rhonda’s analogous reasoning about the need to subtract one when adding nine. In this second scenario, Nash exhibits mathematical knowledge and skill in sizing up the mathematical issues in math problems, in managing mathematical talk in the classroom, and in attending to the mathematical basis for explanations that support understanding. Far from being straightforward, effective teaching involves significant, specialized mathematical knowledge and skill.

### Strengthening mathematical capacity in practice

Consider the following real-world teaching problem and some possible solutions (expressed as a multiple-choice assessment problem). Nash is teaching a lesson on a near-ten subtraction strategy in which, to subtract numbers close to a multiple of ten, you subtract the multiple of ten, then compensate with addition or subtraction. For example, to subtract nineteen or twenty-one, subtract twenty, then add or subtract one. She asks her class to use the “upside-down” hundred chart (see **fig. 4**) to solve the problem forty-five minus nineteen.

Students agree the answer is twenty-six but offer different reasoning. Of the following student explanations, which uses the near-ten

FIGURE 5

The second graders suggest how to show the “direction” of their operations on the hundred chart.

$$\begin{array}{c} 45 - 19 \\ 45 \Downarrow\Downarrow \Rightarrow \\ 45 - 20 + 1 \\ 26 \end{array}$$

strategy and gives the best mathematical basis for why it works?

1. It's twenty-six because you start at 45 and go down two rows because each row is ten. So two rows is twenty, and then you go to the right one step because each time you move to the right, it's adding one.
2. It's twenty-six because 26 is down two and one over, and if you count all the numbers on the chart from 26 up to 45, you get nineteen.
3. It's twenty-six because you go down two rows to subtract twenty, but you've subtracted too many, so you have to add one back in.
4. All these explanations offer an equally good mathematical basis for why the near-ten strategy works.

All these student explanations make sense, but a teacher must recognize when key math-

ematical issues are being addressed and when they are being missed. In this case, *why* is subtracting twenty, then adding one equivalent to subtracting nineteen, and how do you coordinate the hundred chart to explain this? The first explanation identifies the rule of subtracting twenty and adding one and coordinates the hundred chart with the rule, but it fails to explain why one should be added rather than subtracted. The second explanation points out that the number 26 is down two squares and over one square to the right, but it justifies the answer of twenty-six independent of the near-ten strategy. The last explanation might be elaborated on, but it explains the key step of why you add one in the context of this subtraction problem.


Knowing how to respond to this problem requires mathematical knowledge not typically taught in mathematics courses or in workshops for teachers and not typically assessed when measuring teacher knowledge.


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It is a type of mathematics that arises in and for teaching. It is this sort of math knowledge that we argue needs to be better understood.

Teaching is not merely about doing math oneself, but about helping students learn to do it. This is challenging and requires specialized, skilled ways of knowing the domain. Examining practice itself—from planning lessons to using textbooks, leading a discussion, using the board carefully, and choosing examples—reveals the mathematical demands of the work, which are often overlooked. Identifying these demands allows us to identify the mathematical knowledge needed for teaching.

Appreciating the mathematical work of teaching is crucial to being able to support teachers in that work. For example, teachers' opportunities to learn mathematics could be better tied to actual situations that come up in teaching. Teachers could practice dealing with the mathematical problems that arise every day and could develop the

mathematical skill and fluency needed in practice. Teacher education and professional development could center more directly on the mathematical knowledge on which effective teaching draws.

There are signs of promise: In recent studies of professional development, programs that connect the mathematical content to teaching practice produced greater gains in teachers' mathematical knowledge for teaching and in their students' achievement than programs that focused merely on content knowledge. (See, for example Cohen and Hill 2001; Hill and Ball 2004; and Gross, Harris, and Meyers forthcoming.)

Mathematical knowledge does matter for teaching. But it is not a mathematical expertise like that required for research in mathematics or for other kinds of quantitative work. Instead, mathematical knowledge for teaching is a kind of complex mathematical understanding, skill, and fluency used in the work of helping others learn mathematics.

#### BIBLIOGRAPHY

- Ball, Deborah Loewenberg, and Hyman Bass. "With an Eye on the Mathematical Horizon: Knowing Mathematics for Teaching to Learners' Mathematical Futures." Paper prepared based on keynote address at the 43rd Jahrestagung für Didaktik der Mathematik held in Oldenburg, Germany, March 1–4, 2009.
- Ball, Deborah Loewenberg, and Heather Hill. "Measuring Teacher Quality in Practice." In *Measurement Issues and Assessment for Teaching Quality*, edited by Drew H. Gitomer, (pp. 80–98). Thousand Oaks, CA: Sage Publications, 2008.
- Ball, Deborah Loewenberg, Mark Hoover Thames, and Geoffrey Phelps. "Content Knowledge for Teaching: What Makes It Special?" *Journal of Teacher Education* 59, no. 5 (2008): 389–407.
- Cohen, David K., and Heather C. Hill. *Learning Policy: When State Education Reform Works*. New Haven, CT: Yale University Press, 2001.
- Gross, Kenneth, Douglas Harris, and H. W. Meyers. "Serious Mathematics for K–6 Teachers Leads to Higher Student Achievement." Unpublished manuscript.
- Hill, Heather C., and Deborah Loewenberg Ball. "Learning Mathematics for Teaching: Results from California's Mathematics Professional Development Institutes." *Journal for Research*



in *Mathematics Education* 35, no. 5 (November 2004): 330–51.

Lampert, Magdalene M. *Teaching Problems and the Problems of Teaching*. New Haven, CT: Yale University Press, 2001.

National Mathematics Advisory Panel. *Foundations for Success: The Final Report of the National Mathematics Advisory Panel*. Washington, DC: U.S. Department of Education, 2008.

Rowland, Tim, Fay Turner, Peter Huckstep, and Anne Thwaites. *Developing Primary Mathematics Teaching: Reflecting on Practice with the Knowledge Quartet*. London: Sage Publications, 2009.

Shulman, Lee S. "Those Who Understand: Knowledge Growth in Teaching." *Educational Researcher* 15, no. 2 (February 1986): 4–14.

———. "Knowledge and Teaching: Foundations of the New Reform." *Harvard Educational Review* 57, no. 1 (February 1987): 1–22.

Sleep, Laurie S. "Teaching to The Mathematical Point: Knowing and Using Mathematics in

Teaching." PhD diss., University of Michigan–Ann Arbor, 2009.

Wilson, Suzanne M., Lee S. Shulman, and Anna E. Richert. "150 Different Ways of Knowing: Representations of Knowledge in Teaching." In *Exploring Teachers' Thinking*, edited by J. Calderhead, pp. 104–23. Eastbourne, UK: Cassell, 1987.



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# What Math Knowledge Does Teaching Require?

After reading the article, take five minutes of private think time to fill out the Frayer Model. In the center of your Frayer Model you should write “Mathematical Knowledge for Teaching (MKT)”. Then, share your ideas with a group. Together, create one Frayer Model on chart paper that synthesizes your group’s ideas. Post your model on the wall.

## Frayer Model

<b>Definition in your own words</b>	<b>Facts/characteristics</b>
<b>Examples</b>	<b>Nonexamples</b>





## Gallery Walk

Look at each group's poster. What similarities do you notice? What differences do you notice?

Similarities	Differences

## Reflection

Effective teaching is the non-negotiable core that ensures that all students learn mathematics at high levels.

- Principles to Action Executive Summary, National Council of Teachers of Mathematics.

- How has the module changed the way you think about mathematics instruction?
- What will you do differently as a result?
- What are you still wondering about?





# **Module 7**

## **Deep Dive into Mathematics**

## Module 7: Deep Dive into Mathematics

Mathematical thinking is cognitively foundational, and children's early knowledge of math strongly predicts their later success in math. More surprising is that preschool mathematics knowledge predicts achievement even into high school. Most surprising is that it also predicts later reading achievement even better than early reading skills.

- *The Progress of Education Reform*, 2013. Retrieved from [www.ecs.org/per](http://www.ecs.org/per)

### Objective

- Deepen mathematical knowledge for teaching as it relates to the NBT domain of the TN mathematics standards.

### Standards

#### First Grade

- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones — called a “ten.” b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

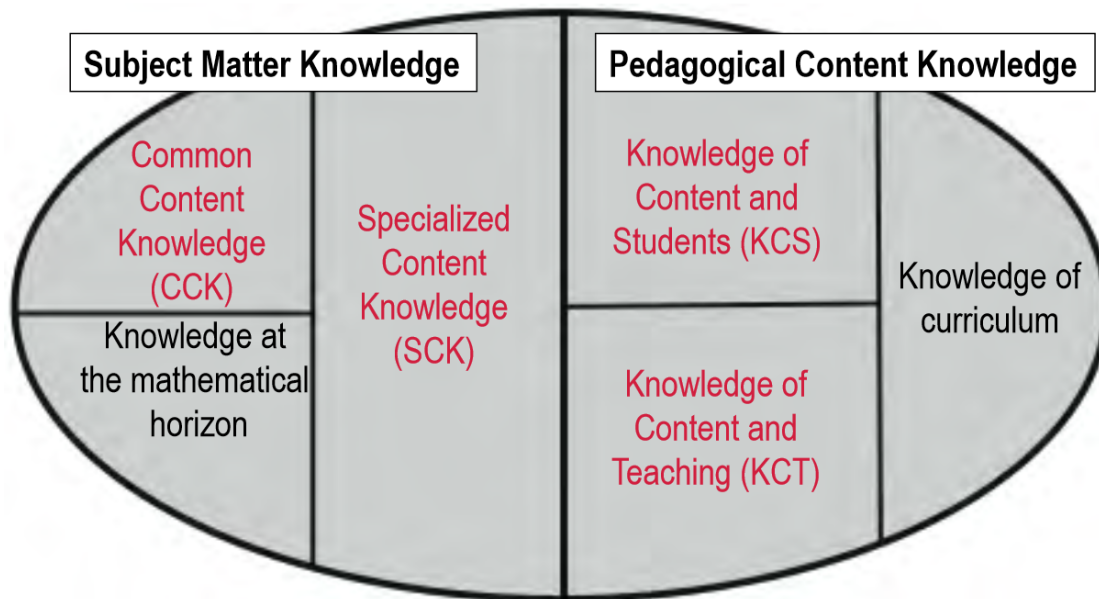
#### Second Grade

- Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a “hundred.” b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

### TEAM Alignment

- Standards and Objectives
- Presenting Instructional Content
- Activities and Materials
- Questioning
- Teacher Content Knowledge
- Thinking
- Problem Solving

# Mathematical Knowledge for Teaching (MKT)



- Thames & Ball, 2010.

## Subject Matter Knowledge

### Big Ideas for Place Value (Van de Walle, 2013)

1. Sets of ten (and tens of tens) can be perceived as single entities or units.
2. The positions of digits in numbers determine what they represent—which size group they count. This is the major organizing principle of place-value numeration and is central to developing number sense.
3. There are patterns to the way that numbers are formed.
4. The groupings of ones, tens, and hundreds can be taken apart in different but equivalent ways. Decomposing and composing multi-digit numbers in flexible ways is a necessary foundation for computational estimation and exact computation.
5. Children progress through three levels of understanding the concept of “ten” starting with understanding ten not as a unit but only as ten ones. They then move to seeing ten as a unit but rely on physical or mental reconstructions of models to help them work with units of ten. Finally, they are able to easily work with units of ten without the need of physical or mental reconstructions of base-ten models.
6. Children’s ability to label the tens place and the ones place or to count by tens does not guarantee that they understand that one ten is the same as ten ones.



## **Discussion**

- Which big ideas are developed or emphasized in Grades 1-2?
- Which big idea can be thought of as a teacher misconception?

# Analyze the Standards

- What are the big ideas for each NBT standard in chart 1 below?
- How is the Kindergarten NBT standard different from the first grade standard 1.NBT.2? Why is this significant?

## Number and Operations in Base Ten, Chart 1

Standard	Big Ideas
<b>K.NBT.1</b> Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	
<b>1.NBT.1.</b> Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written number.	
<b>1.NBT.2.</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones—called a “ten.” b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	
<b>1.NBT.3.</b> Compare two two-digit numbers	



based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$ , $=$ , and $<$ .	
<p><b>2.NBT.1.</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>a. 100 can be thought of as a bundle of ten tens—called a “hundred.”</p> <p>b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p>	
<b>2.NBT.2.</b> Count within 1000; skip-count by 5s, 10s, and 100s.	
<b>2.NBT.3.</b> Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	
<b>2.NBT.4.</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	

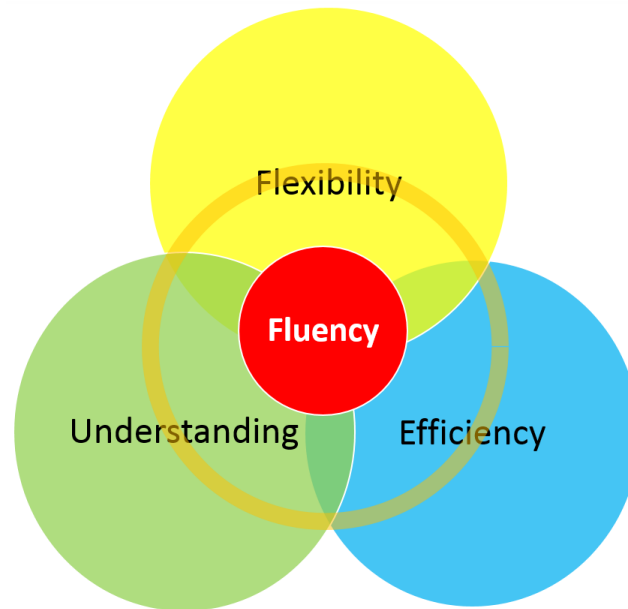
# Analyze the Standards

- How does the language of the standards change from chart 1 to chart 2?
- How is the fluency standard in NBT different from the fluency standards in OA?

## Number and Operations in Base Ten, Chart 2

<i>Use place value understanding and properties of operations to add and subtract.</i>
<b>1.NBT.4.</b> Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties or operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
<b>1.NBT.5.</b> Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
<b>1.NBT.6.</b> Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
<b>2.NBT.5.</b> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
<b>2.NBT.6.</b> Add up to four two-digit numbers using strategies based on place value and properties of operations.
<b>2.NBT.7.</b> Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
<b>2.NBT.8.</b> Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 – 100 from a given number 100-900.
<b>2.NBT.9.</b> Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)

# Fluency



- K.OA.5—Fluently add and subtract within 5.
- 1.OA.6—Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
- 2.OA.2—Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.NBT.5—Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

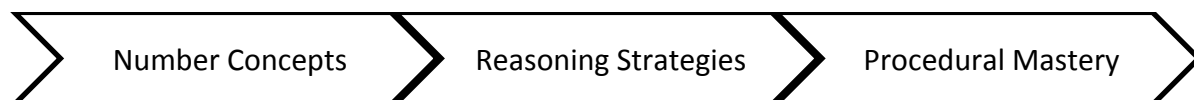
## Phases for Acquisition of Facts



- Baroody, 2006.

**“Fluency builds from initial exploration and discussion of number concepts to using informal reasoning strategies based on meanings and properties of the operations to the eventual use of general methods as tools in solving problems.** This sequence is beneficial whether students are building toward fluency with single- and multi-digit computation with whole numbers or fluency with, for example, fraction operations, proportional relationships, measurement formulas, or algebraic procedures.”

- National Council of Teachers of Mathematics, Principles to Action, 2014



# Foundational Ideas of Place Value

## Why do we have counting standards?

Counting plays a key role in connecting the concept of quantity with symbols and word names. Counting is first developed and reinforced in Pre-K and Kindergarten through the Counting and Cardinality domain. Students extend their work with counting, and reading and writing numerals in first and second grade through the NBT domain (1.NBT.1, 2.NBT.2). Throughout these grades, students will increase their counting complexity from counting by ones, to counting by groups and singles, to counting by tens and ones.

- “Count by ones” approach--When adding and subtracting, strategies are based on counting only by ones.
- Before base-ten ideas develop, counting by ones is the only approach by which children can be convinced that all three sets are the same amount.
- 10 is viewed as 10 ones and not as a unit (18 is seen as 18 ones, not as a 10 and 8 ones).

## Why are the “teen” words so difficult?

In the English language, the teen numbers are the one decade whose number names distort the base-ten language pattern. For example, “eleven” and “twelve” do not sound like “ten and one” and “ten and two.” The numbers “thirteen, fourteen, fifteen,...nineteen” reverse the order of the ones and tens digits by saying the ones digit first. Also, “teen” must be interpreted as meaning “ten” and the prefixes “thir” and “fif” do not clearly say “three” and “five.” In contrast, the corresponding East Asian number words are “ten one, ten two, ten three,” and so on, fitting directly with the base-ten structure and drawing attention to the role of ten.

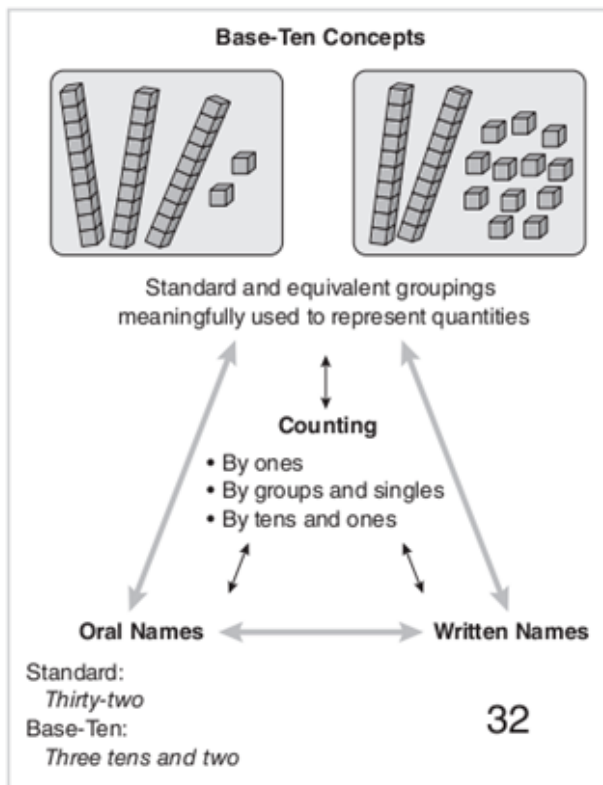
It may be useful to point to each number on a hundred chart while students count the teen numbers. Although the pattern is inconsistent through our word names, the base-ten numeral pattern is stable and students can see this on a hundred chart.

- Early Math Collaborative, 2013.

## Consider Three Representations of 35:

View #1	View #2	View #3

## Relational Understanding of Place Value



We want students to have a relational understanding of place value which integrates three components: base-ten concepts, oral names for numbers, and written names for numbers.

- Van de Walle, 2013.

## Misconceptions

"Children are often able to disguise their lack of understanding of place value by following directions, using the tens and ones pieces in prescribed ways, and using the language of place value."

-Van de Walle, 2013.

# Pedagogical Content Knowledge

## Strategies to Help

- Base-ten tools:
  - Models
  - Layered place value cards
  - Hundreds chart (or thousands chart)
  - Equivalent representations graphic organizers
- Number Talks
- High-level instructional tasks that build conceptual understanding of place value
- Task Arcs on [www.TNCore.org](http://www.TNCore.org)

## Types of Base 10 Models

Proportional	
Groupable Models	Pre-grouped Models (Trading Models)
Examples:	Examples:
Non-Proportional	
Examples:	

# Number Talks

- Number talks are classroom conversations and discussions around purposefully-crafted computation problems. They are opportunities for students to share mathematical thinking.
- Number talks are designed to elicit specific strategies that focus on number relationships and number theory.
- Computational Goals: Accuracy, Flexibility, and Efficiency.

Number Talks are...	Number Talks are not...
A concentrated period of 5 to 15 minutes --3 to 5 times per week --whole group or small group	An entire math lesson
Purposefully-crafted computation problems that students are expected to solve mentally with accuracy, efficiency, and flexibility	Unrelated and disjointed problems --calendar time --number of the day
Rooted in classroom discussions --errors are used as opportunities to unearth misconceptions	Pre-teaching strategies

- Parrish, 2014.

## Discussion

- How does a strong base ten understanding support the strategies we want children to have to work on this number talk?  **$48 + 13$**

## Number Talk Tips

- During pre-planning of number talks, anticipate possible strategies that might arise with specific problems.
- If you aren't able to follow a student's strategy, it's okay to tell them you want time to think about their strategy more deeply.
- Make sure your notation is mathematically correct as you record student thinking.
- Let students start with partner talk until they get used to sharing whole group.
- Have students complete an exit problem requiring them to solve the problem two ways and to place an asterisk by the most efficient strategy.

# Math Tasks

There is no decision that teachers make that has a greater impact on students’ opportunities to learn and on their perceptions about what mathematics is than the selection or creation of the tasks with which the teacher engages students in studying mathematics.

- Lappan & Briars, 1995.

## Revisiting Tasks: True or False

- ☐ All tasks must be high level.
- ☐ Accountable talk is only used during a high level task.
- ☐ All high level instructional tasks must have a context.
- ☐ TN State Standards require task-based instruction.
- ☐ Students never need to engage in low level tasks.
- ☐ Tasks are most effective when they are used to solidify learning.

## Clarifying Task Instruction

What a Task is	What a Task is not



## The Mathematical Task Analysis Guide (TAG)

Lower-Level Demands	Higher-Level Demands
<p><u>Memorization Tasks</u></p> <ul style="list-style-type: none"> <li>• Involves either producing previously learned facts, rules, formulae, or definitions OR committing facts, rules, formulae, or definitions to memory.</li> <li>• Cannot be solved using procedures because a procedure does not exist or because the time frame in which the task is being completed is too short to use a procedure.</li> <li>• Are not ambiguous – such tasks involve exact reproduction of previously seen material and what is to be reproduced is clearly and directly stated.</li> <li>• Have no connection to the concepts or meaning that underlie the facts, rules, formulae, or definitions being learned or reproduced.</li> </ul>	<p><u>Procedures With Connections Tasks</u></p> <ul style="list-style-type: none"> <li>• Focus students' attention on the use of procedures for the purpose of developing deeper levels of understanding of mathematical concepts and ideas.</li> <li>• Suggest pathways to follow (explicitly or implicitly) that are broad general procedures that have close connections to underlying conceptual ideas as opposed to narrow algorithms that are opaque with respect to underlying concepts.</li> <li>• Usually are represented in multiple ways (e.g., visual diagrams, manipulatives, symbols, problem situations). Making connections among multiple representations helps to develop meaning.</li> <li>• Require some degree of cognitive effort. Although general procedures may be followed, they cannot be followed mindlessly. Students need to engage with the conceptual ideas that underlie the procedures in order to successfully complete the task and develop understanding.</li> </ul>
<p><u>Procedures Without Connections Tasks</u></p> <ul style="list-style-type: none"> <li>• Are algorithmic. Use of the procedure is either specifically called for or its use is evident based on prior instruction, experience, or placement of the task.</li> <li>• Require limited cognitive demand for successful completion. There is little ambiguity about what needs to be done and how to do it.</li> <li>• Have no connection to the concepts or meaning that underlie the procedure being used.</li> <li>• Are focused on producing correct answers rather than developing mathematical understanding.</li> <li>• Require no explanations, or explanations that focus solely on describing the procedure that was used.</li> </ul>	<p><u>Doing Mathematics Tasks</u></p> <ul style="list-style-type: none"> <li>• Requires complex and non-algorithmic thinking (i.e., there is not a predictable, well-rehearsed approach or pathway explicitly suggested by the task, task instructions, or a worked-out example).</li> <li>• Requires students to explore and to understand the nature of mathematical concepts, processes, or relationships.</li> <li>• Demands self-monitoring or self-regulation of one's own cognitive processes.</li> <li>• Requires students to access relevant knowledge and experiences and make appropriate use of them in working through the task.</li> <li>• Requires students to analyze the task and actively examine task constraints that may limit possible solution strategies and solutions.</li> <li>• Requires considerable cognitive effort and may involve some level of anxiety for the student due to the unpredictable nature of the solution process required.</li> </ul>

-Stein M. K., Smith, M. S., Henningsen, M. A., & Silver, E. A. (2000). Implementing standards-based mathematics instruction: A casebook for professional development, p. 16. New York: Teachers College Press.

# Moving from 10 Ones to 1 Ten

- Activities with proportional base-ten models
- High-level instructional tasks connecting teen numbers to a unit of ten and some ones

## Example

What Makes a Teen Number (Retrieved from [www.illustrativemathematics.org](http://www.illustrativemathematics.org), task 1404)

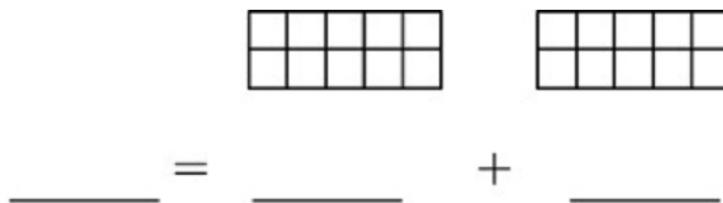
Decompose teen numbers using 10-frames and a number equation.

### Materials

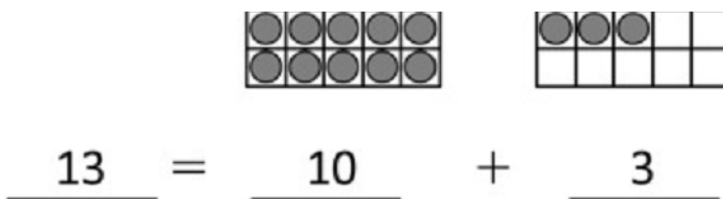
- Number cards 11-19
- Pencil, crayon, or marker
- Attached student worksheet

### Action

This activity can be done individually, in partners, or in small groups. The students have a teacher-made sheet and a writing implement. The cards are shuffled and placed face down.



The student picks a card off of the top of the pile. The student then says the number and draws that many dots beginning with the first 10-frame. When the first 10-frame is filled, the student continues drawing the remaining dots in the next 10-frame. The student then fills in the blank equation with the corresponding numbers.



The student continues to pick cards and illustrate numbers in this way until all cards are used or the sheet is filled.

# Reinforcing Ten as a Unit with Representations

## Example

Number of the Day (Retrieved from [www.illustrativemathematics.org](http://www.illustrativemathematics.org))

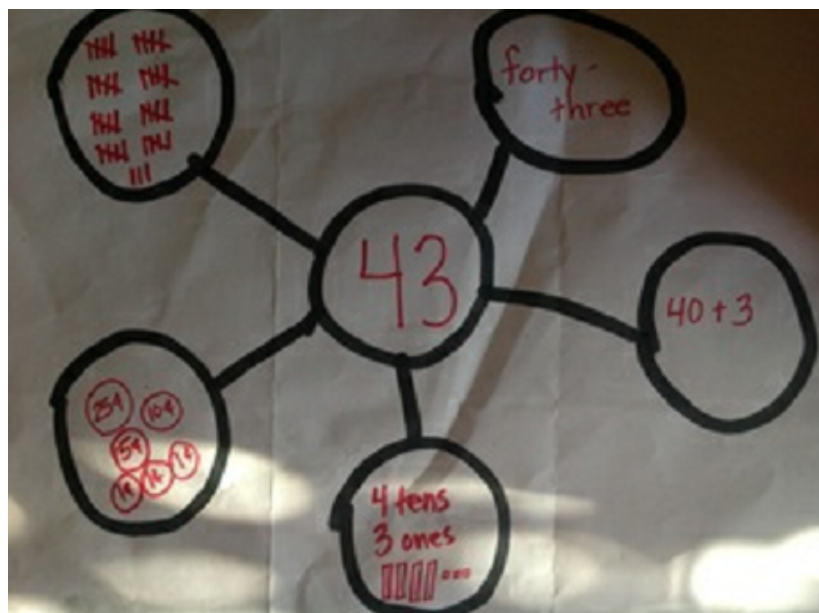
## Materials

Large chart paper, markers, math journals, pencils, 100 chart.

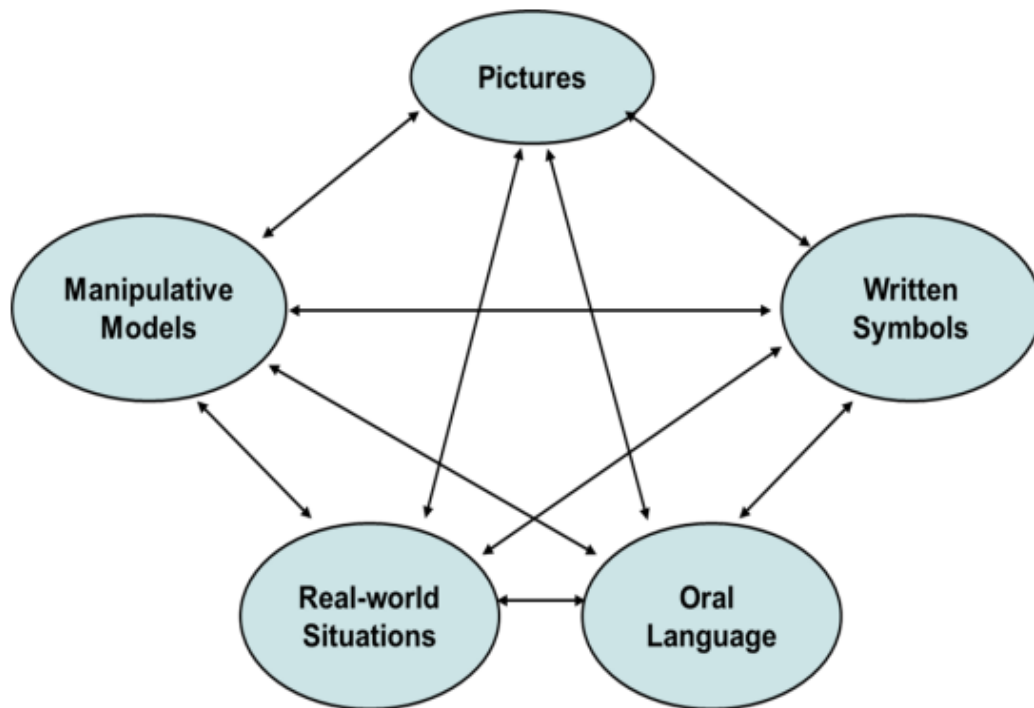
## Directions

Students will count the "Number of the Day" beginning with 1 on the first day of school, and adding one number for each day of school. Each day the class will chorally count up to the last number added to the 100 chart (or a hand drawn chart of numbers) by 1s or 10s. The teacher will then add the next number in the counting sequence to the chart to represent the number of the current day (this way the chart grows by one for each day students are in school).

The teacher then draws a bubble map on chart paper with the number of the day in the middle bubble. The teacher models and guides students in drawing and writing the number in different ways; see the picture below.



# Connections between Representations



Adapted from Lesh, Post, & Behr, 1987

## More Equivalent Representations Tasks

Show forty-two three different ways.

Tens ____	Tens ____	Tens ____
Ones ____	Ones ____	Ones ____

How much? \_\_\_\_\_ Show another way.

→

**Three Other Ways:** Children work in groups or pairs. First, they show 463 on their desks with base-ten materials in the standard representation. Next, they find and record at least three other ways of representing this quantity.

## Seeing 10 as a Unit without Reliance on Models

Base-ten riddles can be presented orally or in written form. In either case, children should use base-ten materials to help solve the riddles. The examples here illustrate a variety of different levels of difficulty. After children solve the following riddles, have them write new ones.

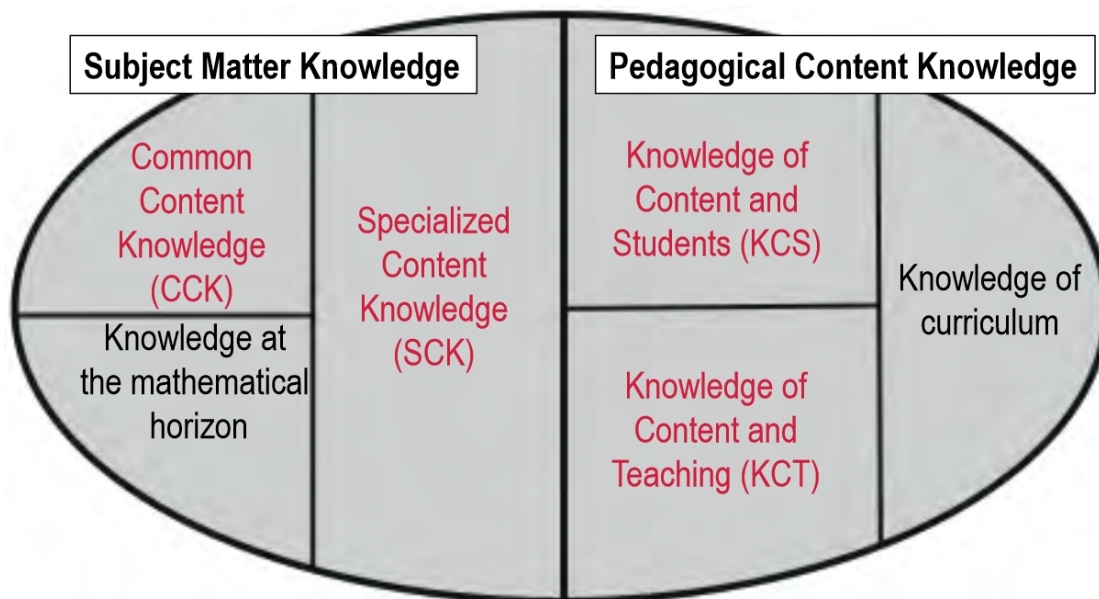
- I have 23 ones and 4 tens. Who am I?
- I have 4 hundreds, 12 tens, and 6 ones. Who am I?
- I have 30 ones and 3 hundreds. Who am I?
- I am 45. I have 25 ones. How many tens do I have?
- I am 341. I have 22 tens. How many hundreds do I have?
- If you put 3 more tens with me, I would be 115. Who am I?
- I have 17 ones. I am between 40 and 50. Who am I? How many tens do I have?

## Task Arc

Review the NBT task arc located in your handouts. Discuss the following ideas with your small group. Then, record your group's take-aways on chart paper.

- How does the structure of the task arc support instruction and student learning?
- How do the standards align to the tasks in the arc? How do they progress throughout the arc?
- How do you see the task arc being implemented in classrooms? How can teachers best utilize this resource?

# Mathematical Knowledge for Teaching



## Reflection

- How has the module changed the way you think about the NBT domain of our standards?
- How will you teach differently as a result?
- How has this module changed the way you view task instruction?
- What are you still wondering about?

# Appendix

# Strand: Reading—Informational Texts

## Topic: Key Ideas and Details

**Anchor 1:** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Standard	
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
RI.1.1	Ask and answer questions about key details in a text.
RI.K.1	With prompting and support, ask and answer questions about key details in a text.
RI.PK.1	With modeling and support, ask and answer questions about informational text.

## Topic: Key Ideas and Details

**Anchor 2:** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Standard	
RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.
RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
RI.1.2	Identify the main topic and retell key details of a text
RI.K.2	With prompting and support, identify the main topic and retell key details of a text.
RI.PK.2	With modeling and support, recall important age appropriate facts from informational text by engaging in meaningful discussions and activities.



**Topic: Key Ideas and Details**

**Anchor 3:** Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Standard	
RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
RI.1.3	Describe the connection between two individuals, events, ideas, or pieces of information in a text.
RI.K.3	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
RI.PK.3	With guidance and support, relate informational text to personal experience or other text.

**Topic: Key Ideas and Details**

**Anchor 4:** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone

Standard	
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
RI.1.4	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
RI.K.4	With prompting and support, ask and answer questions about unknown words in a text.
RI.PK.4	Develop new vocabulary by engaging in meaningful discussions and activities to promote learning of unfamiliar words found in informational text.

**Topic: Craft and Structure**

**Anchor 5:** Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Standard	
RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
RI.1.5	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
RI.K.5	Identify the front cover, back cover, and title page of a book.
RI.PK.5	Identify that the title of the book is found on the front cover.

**Topic: Craft and Structure**

**Anchor 6:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RI.3.6	Distinguish their own point of view from that of the author of a text.
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
RI.1.6	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
RI.K.6	Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
RI.PK.6	With guidance and support, identify the role of the author and the illustrator.

**Topic: Integration of Knowledge and Ideas****Anchor 7:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RI.3.7	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
RI.1.7	Use the illustrations and details in a text to describe its key ideas.
RI.K.7	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
RI.PK.7	With guidance and support, discuss the use of illustrations to support the descriptions of characters, settings or to predict events in the text.

**Topic: Integration of Knowledge and Ideas****Anchor 8:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RI.3.8	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).
RI.2.8	Describe how reasons support specific points the author makes in a text.
RI.1.8	Identify the reasons an author gives to support points in a text.
RI.K.8	With prompting and support, identify the reasons an author gives to support points in a text.
RI.PK.8	(Begins in Kindergarten)

**Topic: Integration of Knowledge and Ideas****Anchor 9:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RI.3.9	Compare and contrast the most important points and key details presented in two texts on the same topic.
RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
RI.1.9	Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
RI.K.9	With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
RI.PK.9	With guidance and support, explore and identify the similarities and differences between books on the same topic.

**Topic: Range of Reading and Level of Text Complexity****Anchor 10:** Read and comprehend complex literary and informational texts independently and proficiently

Standard	
RI.3.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.
RI.2.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
RI.1.10	With prompting and support, read informational texts appropriately complex for grade 1.
RI.K.10	Actively engage in group reading activities with purpose and understanding.
RI.PK.10	Actively listen and participate in small and large group activities when informational text is read aloud or discussed.

# Strand: Reading—Literature

## Topic: Key Ideas and Details

**Anchor 1:** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Standard	
RL.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
RL.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
RL.1.1	Ask and answer questions about key details in a text.
RL.K.1	With prompting and support, ask and answer questions about key details in a text.
RL.PK.1	With modeling and support, ask, and answer (respond to) questions about text read aloud.

## Topic: Key Ideas and Details

**Anchor 2:** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Standard	
RL.3.2	Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.
RL.2.2	Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
RL.1.2	Retell stories, including key details, and demonstrate understanding of their central message or lesson.
RL.K.2	With prompting and support, retell familiar stories, including key details.
RL.PK.2	With guidance and support, recall important facts to retell a familiar story in sequence.

**Topic: Key Ideas and Details**

**Anchor 3:** Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Standard	
RL.3.3	Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
RL.2.3	Describe how characters in a story respond to major events and challenges.
RL.1.3	Describe characters, settings, and major events in a story, using key details.
RL.K.3	With prompting and support, identify characters, settings, and major events in a story.
PK.RL.3	With guidance and support, identify major characters, settings, and events from a familiar story or nursery rhyme.

**Topic: Craft and Structure**

**Anchor 4:** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone

Standard	
RL.3.4	Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
RL.2.4	Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
RL.1.4	Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.
RL.K.4	Ask and answer questions about unknown words in a text.
RL.PK.4	Develop new vocabulary by engaging in meaningful discussions and activities to promote learning of unfamiliar words related to text.

**Topic: Craft and Structure**

**Anchor 5:** Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Standard	
RL.3.5	Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
RL.2.5	Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
RL.1.5	Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.
RL.K.5	Recognize common types of texts (e.g., storybooks, poems).
RL.PK.5	Participate in listening to common types of text (e.g., storybooks, nursery rhymes, and poetry).

**Topic: Craft and Structure**

**Anchor 6:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RL.3.6	Distinguish their own point of view from that of the narrator or those of the characters.
RL.2.6	Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.
RL.1.6	Identify who is telling the story at various points in a text.
RL.K.6	With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.
RL.PK.6	With guidance and support identify the role of the author and the illustrator.

**Topic: Integration of Knowledge and Ideas****Anchor 7:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RL.3.7	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).
RL.2.7	Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
RL.1.7	Use illustrations and details in a story to describe its characters, setting, or events.
RL.K.7	With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
RL.PK.7	With guidance and support, discuss the use of illustrations to support the descriptions of characters, settings, or predict events in the story.

**Topic: Integration of Knowledge and Ideas****Anchor 8:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
3RL.3.8	(Not applicable to literature)
RL.2.8	(Not applicable to literature)
RL.1.8.	(Not applicable to literature)
RL.K.8	(Not applicable to literature)
RL.PK.8	(Not applicable to literature)



**Topic: Integration of Knowledge and Ideas****Anchor 9:** Assess how point of view or purpose shapes the content and style of a text.

Standard	
RL.3.9	Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).
RL.2.9	Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
RL.1.9	Compare and contrast the adventures and experiences of characters in stories.
RL.K.9	With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.
RL.PK.9	With guidance and support, relate the story to previously read stories, ideas in the themes, or personal life experiences.

**Topic: Range of Reading and Level of Text Complexity**

**Anchor 10:** Read and comprehend complex literary and informational texts independently and proficiently

Standard	
RL.3.10	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently.
RL.2.10	By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
RL.1.10	With prompting and support, read prose and poetry of appropriate complexity for grade 1.
RL.K.10	Actively engage in group reading activities with purpose and understanding.
RL.PK.10	Actively listen and participate in small and large group activities when literature is read aloud or discussed.

# Strand: Reading— Foundational Skills

## Topic: Print Concepts

**Anchor 1:** Demonstrate understanding of the organization and basic features of print.

Standard	
RF.3.1	(Not applicable to 3 <sup>rd</sup> Grade)
RF.2.1	(Not applicable to 2 <sup>nd</sup> Grade)
RF.1.1	Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).
RF.K.1	a. Follow words from left to right, top to bottom, and page by page
	b. Recognize that spoken words are represented in written language by specific sequences of letters.
	c. Understand that words are separated by spaces in print.
	d. Recognize and name all upper- and lowercase letters of the alphabet.
RF.PK.1	a. Handle books respectfully and appropriately, right-side-up and turning pages one at a time, front to back.
	b. Recognize spoken words can be written and read.
	c. With guidance and support, understand that words are made up of alphabet letters which have individual names and are written in a specific sequence in order to create words that can be read.
	d. Recognize frequently occurring uppercase letters and some of the most frequently occurring lowercase letters.

**Topic: Phonological Awareness**

**Anchor 2:** Demonstrate increasing understanding of spoken words, syllables, and sounds.

Standard	
RF.3.2	(Not applicable to 3 <sup>rd</sup> Grade)
RF.2.2	(Not applicable to 2 <sup>nd</sup> Grade)
RF.1.2	a. Distinguish long from short vowel sounds in spoken single-syllable words.
	b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
	Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single- syllable words.
	d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).
RF.K.2	a. Recognize and produce rhyming words.
	b. Count, pronounce, blend, and segment syllables in spoken words.
	c. Blend and segment onsets and rimes of single- syllable spoken words.
	d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. <sup>1</sup> (This does not include CVCs ending with /l/, /r/, or /x/.)
	e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.
RF.PK.2	a. Recognize and discriminate rhyming words in spoken language.
	b. Participate in oral activities to introduce counting syllables in familiar words and words in a sentence.
	c. (Begins in Kindergarten or when individual child is ready)
	d. (Begins in Kindergarten or when individual child is ready)
	e. With guidance and support, identify whether or not two words begin with the same sound.

## Topic: Phonics and Word Recognition

**Anchor 3:** Know and apply grade-level phonics and word analysis skills in decoding words.

Standard	
RF.3.1	a. Identify and know the meaning of the most common prefixes and derivational suffixes.
	b. Decode words with common Latin suffixes.
	c. Decode multisyllable words.
	d. Read grade-appropriate irregularly spelled words.
RF.2.3	a. Distinguish long and short vowels when reading regularly spelled one-syllable words.
	b. Know spelling-sound correspondences for additional common vowel teams.
	c. Decode regularly spelled two-syllable words with long vowels.
	d. Decode words with common prefixes and suffixes.
	e. Identify words with inconsistent but common spelling-sound correspondences.
	f. Recognize and read grade-appropriate irregularly spelled words.
RF.1.3	a. Know the spelling-sound correspondences for common consonant digraphs.
	b. Decode regularly spelled one-syllable words.
	c. Know final -e and common vowel team conventions for representing long vowel sounds.
	d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
	e. Decode two-syllable words following basic patterns by breaking the words into syllables.
	f. Read words with inflectional endings.
	g. Recognize and read grade-appropriate irregularly spelled words.
RF.K.3	a. Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant.
	b. Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.
	c. Read common high-frequency words by sight (e.g., <i>the, of, to, you, she, my, is, are, do, does</i> ).
	d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.
RF.PK.3	a. Demonstrate developing basic knowledge of letter-sound correspondence association by beginning to match the name and initial sound of some consonant letters such as in own name, classmates' names, or common words.
	b. (Begins in Kindergarten or when individual child is ready)
	c. Recognize own name in print and some other common symbols and words in the environment (e.g., universal symbols, classmates' names, STOP, GO).
	d. With guidance and support, discriminate between words with the same and different first letter sounds.

**Topic: Fluency****Anchor 4:** Read with sufficient accuracy and fluency to support comprehension.

Standard	
RF.3.4	a. Read grade-level text with purpose and understanding.
	b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
	c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
RF.2.4	a. Read grade-level text with purpose and understanding.
	b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
	c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
RF.1.4	a. Read grade-level text with purpose and understanding.
	b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
	c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
RF.K.4	Read emergent-reader texts with purpose and understanding.
RF.PK.4	Demonstrate awareness that books carry a message. Can retell the story events and overall theme in familiar picture books, by using illustrations (observing and discussing) to support “reading” the words in the text.

# Strand: Writing

## Topic: Text Types and Purposes

**Anchor 1:** Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Standard	
W.3.1	Write opinion pieces on topics or texts, supporting a point of view with reasons. <ul style="list-style-type: none"><li>• Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.</li><li>• Provide reasons that support the opinion.</li><li>• Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons.</li><li>• Provide a concluding statement or section.</li></ul>
W.2.1	Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.
W.1.1.	Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
W.K.1.	Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is...).
W.PK.1	With modeling and support, use a combination of drawing, dictating, and emergent writing to express a preference, opinion or idea about a specific topic or text.

**Topic: Text Types and Purposes**

**Anchor 2:** Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Standard	
W.3.2	<p>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ul style="list-style-type: none"><li>• Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.</li><li>• Develop the topic with facts, definitions, and details.</li><li>• Use linking words and phrases (e.g., <i>also</i>, <i>another</i>, <i>and</i>, <i>more</i>, <i>but</i>) to connect ideas within categories of information.</li><li>• Provide a concluding statement or section.</li></ul>
W.2.2	<p>Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.</p>
W.1.2	<p>Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.</p>
W.K.2	<p>Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.</p>
W.PK.2	<p>With modeling and support, use a combination of drawing, dictating, and letters to explain information about a familiar topic or informational text.</p>



**Topic: Text Types and Purposes**

**Anchor 3:** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Standard	
W.3.3	<p>Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <ul style="list-style-type: none"><li>• Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.</li><li>• Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.</li><li>• Use temporal words and phrases to signal event order.</li><li>• Provide a sense of closure.</li></ul>
W.2.3	<p>Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.</p>
W.1.3	<p>Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.</p>
W.K.3	<p>Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.</p>
W.PK.3	<p>With modeling and support, use a combination of drawing, dictating, and emergent writing to tell a real or imagined story indicating some order of the events.</p>

**Topic: Production and Distribution of Writing**

**Anchor 4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Grade	Standard
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
W.2.4	(Begins in grade 3)
W.1.4	(Begins in grade 3)
W.K.4	(Begins in grade 3)
W.PK.4	(Begins in grade 3)

**Topic: Production and Distribution of Writing**

**Anchor 5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Standard	
W.3.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
W.1.5	With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
W.K.5	With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.
W.PK.5	(Begins in Kindergarten or when individual child is ready).

**Topic: Production and Distribution of Writing**

**Anchor 6:** Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Standard	
W.3.6	With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.
W.2.6	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
W.1.6	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
W.K.6	With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.
W.PK.6	With guidance and support, explore a variety of digital tools (e.g., computers, smart board and tables, iPads, phones), to convert oral messages and ideas into words and/or pictures.

**Topic: Research to Build and Present Writing**

**Anchor 7:** Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Standard	
W.3.7	Conduct short research projects that build knowledge about a topic.
W.2.7	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
W.1.7	Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).
W.K.7.	Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
W.PK.7	With guidance and support, participate in shared writing projects (e.g., explore several books by one author and express opinions about them through activities such as dictated writing or drawing).

**Topic: Research to Build and Present Writing**

**Anchor 8:** Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

Standard	
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
W.1.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
W.K.8.	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
W.PK.8	With guidance and support, recall information from experiences or gather information from provided sources (e.g., books, internet, classroom guests), to answer a question.

**Topic: Research to Build and Present Writing**

**Anchor 9:** Draw evidence from literary or informational texts to support analysis, reflection, and research.

Standard	
W.3.9	(Begins in grade 4)
W.2.9	(Begins in grade 4)
W.1.9	(Begins in grade 4)
W.K.9	(Begins in grade 4)
W.PK.9	(Begins in grade 4)

**Topic: Range of Writing**

**Anchor 10:** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Standard	
W.3.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
W.2.10	(Begins in grade 3)
W.1.10	(Begins in grade 3)
W.K.10	(Begins in grade 3)
W.PK.10	(Begins in grade 3)

# Strand: Speaking and Listening

## Topic: Comprehension and Collaboration

**Anchor 1:** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Standard	
SL.3.1	<p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <ul style="list-style-type: none"> <li>• Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</li> <li>• Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>• Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.</li> <li>• Explain their own ideas and understanding in light of the discussion.</li> </ul>
SL.2.1	<p>Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>• Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>• Build on others' talk in conversations by linking their comments to the remarks of others.</li> <li>• Ask for clarification and further explanation as needed about the topics and texts under discussion.</li> </ul>
SL.1.1	<p>Participate in collaborative conversations with diverse partners about <i>grade 1 topics and texts</i> with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>• Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>• Build on others' talk in conversations by responding to the comments of others through multiple exchanges.</li> <li>• Ask questions to clear up any confusion about the topics and texts under discussion.</li> </ul>
SL.K.1	<p>Participate in collaborative conversations with diverse partners about <i>kindergarten topics and texts</i> with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>• Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).</li> <li>• Continue a conversation through multiple exchanges.</li> </ul>
SL.PK.1	<p>Participate in collaborative conversations which include book reading and theme-related vocabulary, with adults and other children during transitions and routine daily</p>

	<p>activities, including free play.</p> <ul style="list-style-type: none"> <li>• Observe and use appropriate ways of interacting in a group (e.g., taking turns in talking, actively listening to peers, waiting to speak until another person is finished talking, asking questions and waiting for an answer).</li> <li>• Engage in an extended conversation, striving for five verbal exchanges between adult and child.</li> </ul>
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**Topic: Comprehension and Collaboration**

**Anchor 2:** Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade	Standard
SL.3.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
SL.1.2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
SL.K.2	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
SL.PK.2	Demonstrate the ability to recall information for short periods of time and retell, act out, or represent information from a familiar text read aloud, a recording, or a video (e.g., watch a video about birds and their habitats and make drawings or constructions of birds and their nests).

**Topic: Comprehension and Collaboration****Anchor 3:** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Standard	
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SL.2.3	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
SL.1.3	Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
SL.K.3	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
SL.PK.3	With modeling and guidance, ask and answer questions in order to seek help, get information, or clarify something which is not understood.

**Topic: Presentation of Knowledge and Ideas****Anchor 4:** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Standard	
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
SL.2.4	Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
SL.1.4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
SL.K.4	Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
SL.PK.4	Actively participate in conversations to tell or talk about familiar people, places, things and events, and with prompting and support, add additional details that help enrich and extend the conversation.



**Topic: Presentation of Knowledge and Ideas**

**Anchor 5:** Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Standard	
SL.3.5	Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
SL.2.5	Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
SL.1.5	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
SL.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.PK.5	Create representations and extensions of experiences or stories (e.g., drawings, dramatic play, construction with blocks, clay or other materials) and discuss them with others.

**Topic: Presentation of Knowledge and Ideas**

**Anchor 6:** Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Standard	
SL.3.6	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
SL.2.6	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
SL.1.6	Produce complete sentences when appropriate to task and situation.
SL.K.6	Speak audibly and express thoughts, feelings, and ideas clearly.
SL.PK.6	Speak clearly and audibly to express thoughts, feelings, and ideas. <ul style="list-style-type: none"><li>English Learner students use home language as well as English language through prompting and support.</li></ul>

# Strand: Language

## Topic: Conventions of Standard English

**Anchor 1:** Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Standard	
L .3.1	<p>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>• Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.</li> <li>• Form and use regular and irregular plural nouns.</li> <li>• Use abstract nouns (e.g., <i>childhood</i>).</li> <li>• Form and use regular and irregular verbs.</li> <li>• Form and use the simple (e.g., <i>I walked; I walk; I will walk</i>) verb tenses.</li> <li>• Ensure subject-verb and pronoun-antecedent agreement.*</li> <li>• Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.</li> <li>• Use coordinating and subordinating conjunctions.</li> <li>• Produce simple, compound, and complex sentences.</li> </ul>
L .2.1	<p>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>• Use collective nouns (e.g., <i>group</i>).</li> <li>• Form and use frequently occurring irregular plural nouns (e.g., <i>feet, children, teeth, mice, fish</i>).</li> <li>• Use reflexive pronouns (e.g., <i>myself, ourselves</i>).</li> <li>• Form and use the past tense of frequently occurring irregular verbs (e.g., <i>sat, hid, told</i>).</li> <li>• Use adjectives and adverbs, and choose between them depending on what is to be modified.</li> <li>• Produce, expand, and rearrange complete simple and compound sentences (e.g., <i>The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy</i>).</li> </ul>
L .1.1	<p>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>• Print all upper- and lowercase letters.</li> <li>• Use common, proper, and possessive nouns.</li> <li>• Use singular and plural nouns with matching verbs in basic sentences (e.g., <i>He hops; We hop</i>).</li> <li>• Use personal, possessive, and indefinite pronouns (e.g., <i>I, me, my; they, them, their, anyone, everything</i>).</li> <li>• Use verbs to convey a sense of past, present, and future (e.g., <i>Yesterday I walked home; Today I walk home; Tomorrow I will walk home</i>).</li> <li>• Use frequently occurring adjectives.</li> <li>• Use frequently occurring conjunctions (e.g., <i>and, but, or, so, because</i>).</li> </ul>

	<ul style="list-style-type: none"> <li>• Use determiners (e.g., articles, demonstratives).</li> <li>• Use frequently occurring prepositions (e.g., <i>during, beyond, toward</i>).</li> <li>• Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts.</li> </ul>
L .K.1	<p>Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>• Print many upper- and lowercase letters.</li> <li>• Use frequently occurring nouns and verbs.</li> <li>• Form regular plural nouns orally by adding /s/ or /es/ (e.g., <i>dog, dogs; wish, wishes</i>).</li> <li>• Understand and use question words (interrogatives) (e.g., <i>who, what, where, when, why, how</i>).</li> <li>• Use the most frequently occurring prepositions (e.g., <i>to, from, in, out, on, off, for, of, by, with</i>).</li> <li>• Produce and expand complete sentences in shared language activities.</li> </ul>
L.PK.1	<p>Through adult modeling, guidance and support, use complete sentences to express a thought or idea.</p> <ul style="list-style-type: none"> <li>• With modeling and support print some upper- and lower-case letters (letters may not be of conventional size or shape).</li> <li>• With modeling and support, use frequently occurring (often theme-based) vocabulary words.</li> <li>• With modeling and support, use the plural form of regular nouns in oral communication.</li> <li>• With guidance and support, use question words (e.g., <i>who, what, where, when, why, how</i>) to gather information.</li> <li>• Appropriately use the most frequently occurring prepositions (e.g., <i>to, from, in, out, on, off, for, of, by, with</i>).</li> <li>• With scaffolding and specific feedback from adults, participate in shared language activities and use increasingly complex and varied spoken vocabulary.</li> </ul>

**Topic: Conventions of Standard English**

**Anchor 2:** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Standard	
L.3.2	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"><li>• Capitalize appropriate words in titles.</li><li>• Use commas in addresses.</li><li>• Use commas and quotation marks in dialogue.</li><li>• Form and use possessives.</li><li>• Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., <i>sitting, smiled, cries, happiness</i>).</li><li>• Use spelling patterns and generalizations (e.g., <i>word families, position-based spellings, syllable patterns, ending rules, meaningful word parts</i>) in writing words.</li><li>• Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.</li></ul>
L.2.2	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"><li>• Capitalize holidays, product names, and geographic names.</li><li>• Use commas in greetings and closings of letters.</li><li>• Use an apostrophe to form contractions and frequently occurring possessives.</li><li>• Generalize learned spelling patterns when writing words (e.g., <i>cage</i> → <i>badge</i>; <i>boy</i> → <i>boil</i>).</li><li>• Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.</li></ul>
L.1.2	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"><li>• Capitalize dates and names of people.</li><li>• Use end punctuation for sentences.</li><li>• Use commas in dates and to separate single words in a series.</li><li>• Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words.</li><li>• Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.</li></ul>
L.K.2	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"><li>• Capitalize the first word in a sentence and the pronoun.</li><li>• Recognize and name end punctuation.</li><li>• Write a letter or letters for most consonant and short-vowel sounds (phonemes).</li><li>• Spell simple words phonetically, drawing on knowledge of sound-letter relationships.</li></ul>
L.PK.2	<p>Use some letters to represent ideas and inconsistently use conventions of standard English capitalization and punctuation.</p> <ul style="list-style-type: none"><li>• Show awareness of the difference between upper- and lower-case letters.</li></ul>

	<ul style="list-style-type: none"> <li>• (Begins in Kindergarten)</li> <li>• Show awareness of conventional letter-sound relationships through use of invented spelling in writing.</li> <li>• With modeling and support, demonstrate awareness of sounds in words by identifying initial letter of familiar words.</li> </ul>
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**Topic: Knowledge of Language**

**Anchor 3:** Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Standard	
L.3.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening. <ul style="list-style-type: none"> <li>• Choose words and phrases for effect.*</li> <li>• Recognize and observe differences between the conventions of spoken and written standard English.</li> </ul>
L.2.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening. <ul style="list-style-type: none"> <li>• Compare formal and informal uses of English.</li> </ul>
L.1.3	(Begins in grade 2)
L.K.3	(Begins in grade 2)
L.PK.3	(Begins in grade 2)

**Topic: Vocabulary Acquisition and Use**

**Anchor 4:** Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

Grade	Standard
L.3.4	<p>Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.</p> <ul style="list-style-type: none"><li>• Use sentence-level context as a clue to the meaning of a word or phrase.</li><li>• Determine the meaning of the new word formed when a known affix is added to a known word (e.g., <i>agreeable/disagreeable</i>, <i>comfortable/uncomfortable</i>, <i>care/careless</i>, <i>heat/preheat</i>).</li><li>• Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>company</i>, <i>companion</i>).</li><li>• Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.</li></ul>
L.2.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.</p> <ul style="list-style-type: none"><li>• Use sentence-level context as a clue to the meaning of a word or phrase.</li><li>• Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., <i>happy/unhappy</i>, <i>tell/retell</i>).</li><li>• Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>addition</i>, <i>additional</i>).</li><li>• Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., <i>birdhouse</i>, <i>lighthouse</i>, <i>housefly</i>; <i>bookshelf</i>, <i>notebook</i>, <i>bookmark</i>).</li><li>• Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.</li></ul>
L.1.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 1 reading and content</i>, choosing flexibly from an array of strategies.</p> <ul style="list-style-type: none"><li>• Use sentence-level context as a clue to the meaning of a word or phrase.</li><li>• Use frequently occurring affixes as a clue to the meaning of a word.</li><li>• Identify frequently occurring root words (e.g., <i>look</i>) and their inflectional forms (e.g., <i>looks</i>, <i>looked</i>, <i>looking</i>).</li></ul>
L.K.4	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.</p> <ul style="list-style-type: none"><li>• Identify new meanings for familiar words and apply them accurately (e.g., knowing <i>duck</i> is a bird and learning the verb to <i>duck</i>).</li><li>• Use the most frequently occurring inflections and affixes (e.g., <i>-ed</i>, <i>-s</i>, <i>re-</i>, <i>un-</i>, <i>pre-</i>, <i>-ful</i>, <i>-less</i>) as a clue to the meaning of an unknown word.</li></ul>
L.PK.4	<p>With guidance and support, ask or answer questions about the meaning of new and unfamiliar words and phrases introduced through current themes and related books, activities, and play.</p> <ul style="list-style-type: none"><li>• Recognize that some words have more than one meaning as used in a conversation or as found in a book (i.e., bank, <i>a place to keep money</i>, and bank <i>the edge of a river</i>).</li><li>• Recognize that some words have more than one meaning as used in a conversation or as found in a book (i.e., bank, <i>a place to keep money</i>, and bank <i>the edge of a river</i>).</li><li>• (Begins in Kindergarten)</li></ul>

**Topic: Vocabulary Acquisition and Use****Anchor 5:** Demonstrate understanding of word relationships and nuances in word meanings.

Grade	Standard
L.3.5	Demonstrate understanding of figurative language, word relationships and nuances in word meanings. <ul style="list-style-type: none"><li>• Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., <i>take steps</i>).</li><li>• Identify real-life connections between words and their use (e.g., describe people who are <i>friendly</i> or <i>helpful</i>).</li><li>• Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., <i>knew</i>, <i>believed</i>, <i>suspected</i>, <i>heard</i>, <i>wondered</i>).</li></ul>
L.2.5	Demonstrate understanding of figurative language, word relationships and nuances in word meanings. <ul style="list-style-type: none"><li>• Identify real-life connections between words and their use (e.g., <i>describe foods that are spicy or juicy</i>).</li><li>• Distinguish shades of meaning among closely related verbs (e.g., <i>toss</i>, <i>throw</i>, <i>hurl</i>) and closely related adjectives (e.g., <i>thin</i>, <i>slender</i>, <i>skinny</i>, <i>scrawny</i>).</li></ul>
L.1.5	With guidance and support from adults, demonstrate understanding of figurative language, word relationships and nuances in word meanings. <ul style="list-style-type: none"><li>• Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.</li><li>• Define words by category and by one or more key attributes (e.g., a <i>duck</i> is a bird that swims; a <i>tiger</i> is a large cat with stripes).</li><li>• Identify real-life connections between words and their use (e.g., note places at home that are <i>cozy</i>).</li><li>• Distinguish shades of meaning among verbs differing in manner (e.g., <i>look</i>, <i>peek</i>, <i>glance</i>, <i>stare</i>, <i>glare</i>, <i>scowl</i>) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.</li></ul>
L.K.5	With guidance and support from adults, explore word relationships and nuances in word meanings. <ul style="list-style-type: none"><li>• Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.</li><li>• Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).</li><li>• Identify real-life connections between words and their use (e.g., note places at school that are colorful).</li><li>• Distinguish shades of meaning among verbs describing the same general action (e.g., <i>walk</i>, <i>march</i>, <i>strut</i>, <i>prance</i>) by acting out the meanings.</li></ul>
L.PK.5	With guidance and support, explore the meaning of unfamiliar words found from themes, books and conversations and incorporate them into everyday vocabulary. <ul style="list-style-type: none"><li>• Sort familiar objects into categories and identify the “common” factor of the group (e.g. Identify reason {common factor} for grouping objects; categorize animals by</li></ul>

	<p>those who fly or walk; group cars by color or number of doors).</p> <ul style="list-style-type: none"> <li>• Demonstrate understanding of the most frequently occurring adjectives and opposites (e.g., more/less, empty/full, happy/sad, stressed/relaxed).</li> <li>• Make meaningful connection between words learned to describe similar objects found in different settings (e.g., cubby/closet, desk/table and cot/bed).</li> <li>• With guidance and support, describe and demonstrate the different meaning of similar verbs used in daily conversations and across activities (e.g., talk/ chat, whisper/yell).</li> </ul>
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**Topic: Vocabulary Acquisition and Use**

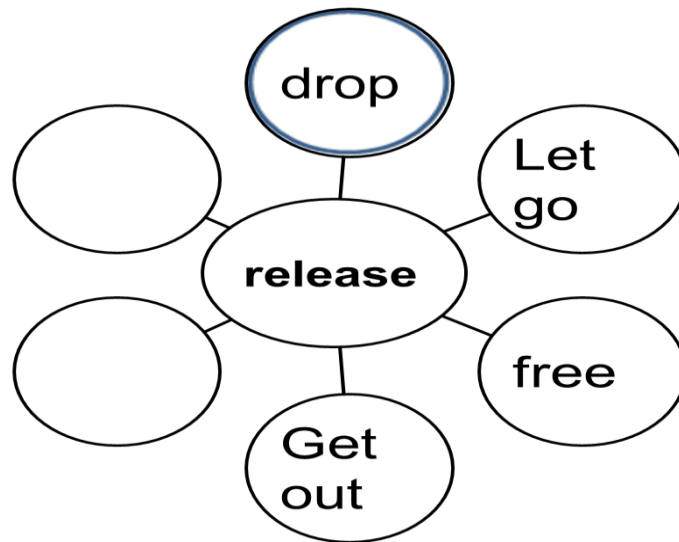
**Anchor 6:** Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Standard	
L.3.6	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., <i>After dinner that night we went looking for them</i> ).
L.2.6	Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., <i>When other kids are happy that makes me happy</i> ).
L.1.6	Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., <i>because</i> ).
L.K.6	Use words and phrases acquired through conversations, reading and being read to, and responding to texts.
L.PK.6	Frequently use the vocabulary words and phrases acquired through conversations and listening to books read aloud.

# Instructional Resources for Vocabulary

## Word Maps

Word maps are a graphic tool to help students build relationships between new words and words they already know. Put the word in the middle and related words around the map.



## Word Sort

Word sorts can be used to formatively assess students' understanding of a text and its vocabulary. Analyzing, categorizing, and labeling information can help demonstrate understanding of the text. A sort requires students to engage in critical thinking as they examine sight vocabulary, corresponding concepts, or word structure. This is an activity that should be modeled whole group prior to using as a formative assessment.

There are two kinds of sorts: Open Sorts, and Closed Sorts.

- Closed Sorts - The teacher provides both the categories and the features of the categories.
  - Open Sorts - The teacher only provides the list of words or the categories. The students must organize the vocabulary and analyze qualities and name the categories.
1. List 10-20 key vocabulary words or pictures from a reading selection on manipulatives like index cards or sticky notes.
  2. Place students into groups of three or four. Distribute the vocabulary words or pictures to each group of students.
  3. For a Closed Sort, provide students with the categories for sorting their cards. For an Open Sort, instruct the groups to organize the vocabulary into "like" qualities and name the categories.
  4. Support students with questions to help them develop their rationale for how they sorted their vocabulary words.

5. Allow students time to talk about their choices.
6. Conduct a class discussion with each group presenting their sorts.

- [www.readingeducator.com/strategies/sort.htm](http://www.readingeducator.com/strategies/sort.htm)

Example: Open Sort for *Oceans*

Sort the following words- *plankton, vapor, climate, absorb, Pacific, currents, dolphins, oceans, seals, Arctic, animals, Indian, evaporate, seals, release, whales*

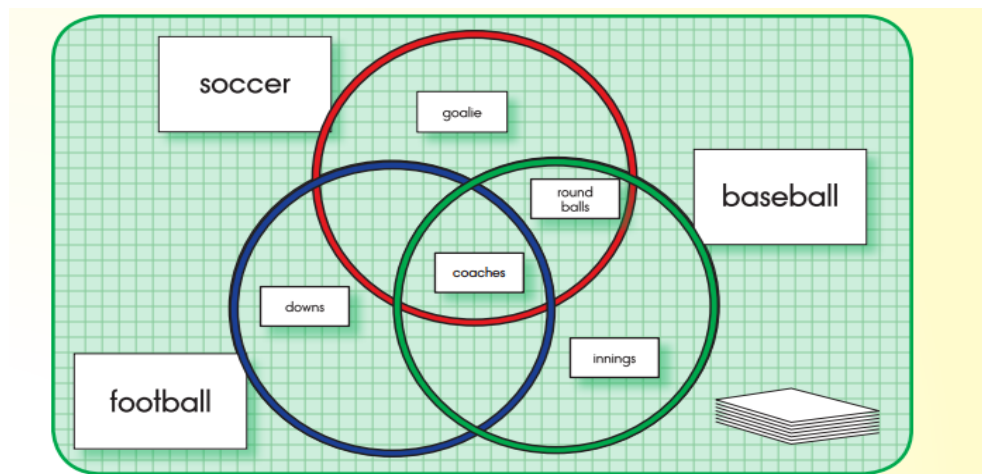


## Compare Extraordinaire & 3-Way Venn Diagram

Students compare words using a 3-way Venn diagram.

1. Place the 3-way Venn diagram on a flat surface. Place one header card near each circle. Place the attribute cards face down in a stack.
2. Taking turns, students select the top card and read it.
3. Determine if attribute or related vocabulary applies to one or more of the headers. Place in the corresponding section of the diagram.

Copy on three different colored pieces of paper to make circles stand out. Use string or other material (e.g., hoola hoops) to form 3-way Venn diagrams. Create header and attribute cards.



- Florida Center for Reading Research

## Semantic Feature Analysis

Semantic feature analysis illustrates how words are both similar and different and emphasizes the uniqueness of each word. This activity draws on students' prior knowledge and uses discussion to elicit information about word meanings. The teacher may adjust the number of categories depending on the learner. This could be used as a group activity and formative assessment. Use concrete words (pictures) and features for learners who have difficulty with abstract thoughts.

1. Select a category or topic for the semantic feature analysis.
2. Provide students with key vocabulary words and important features related to the topic.
3. Vocabulary words should be listed down the left hand column and the features of the topic across the top row of the chart.
4. Have students place a "+" sign in the matrix when a vocabulary word aligns with a particular feature of the topic. If the word does not align students may put a "-" in the grid. If students are unable to determine a relationship they may leave it blank. (

- Reading Rockets

## Select and Connect Vocabulary

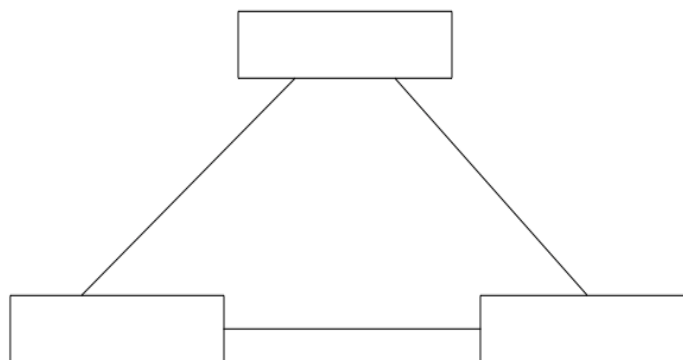
An alternative activity using some of the same vocabulary words would be Select and Connect Vocabulary. The teacher would make vocabulary cards, and next have the children get in a circle so they can see every card. Starting with one child in the middle, the teacher selects someone that connects with their vocabulary card. At this time, student one and/or student two make a sentence connecting the vocabulary words. Choose another student for the middle and continue the activity. This provides the teacher an informal assessment of the students' understanding of the vocabulary words.

- Florida Center for Reading Research

## Three-Way Tie

A three-way tie requires students to complete the graphic organizer by recording two synonyms related to the new vocabulary word.

**Three-Way Tie Graphic Organizer**



# Instructional Resources for Decoding

## Syllable Types

A syllable is the unit of pronunciation that is organized around a vowel; it may or may not have consonants before or after the vowel. Without a strategy for chunking longer words into manageable parts, students may look at a longer word and simply resort to guessing what it is—or altogether skipping it (Moats, 2009).

**C**losed

**L**e

**O**pen

**V**owel team

**E**VCe

**R**vowel + r

A **c**losed syllable is a syllable with a short vowel, spelled with a single vowel letter ending in one or more consonants.

dap-ple      hos-tel      bev-er-age

A consonant-**l**e syllable is an unaccented syllable that contains a consonant before /l/, followed by a silent e.

drib-ble      bea-gle      lit-tle

An **o**pen syllable is a syllable that ends with a long vowel sound, spelled with a single vowel letter.

pro-gram      ta-ble      re-cent

A **v**owel team (including diphthongs) syllable is a syllable with long or short vowel spellings that uses two to four letters to spell the vowel. Diphthongs ou/ow and oi/oy are included in this category.

aw-ful      train-er      con-geal      spoil-age

A vowel-consonant-**e** (VCe) syllable is a syllable with a long vowel, spelled with one vowel + one consonant + silent e.

com-pete      des-pite

A vowel-**r** syllable is a syllable with er, ir, or, ar, or ur. Vowel pronunciation often changes before /r/.

in-jur-i-ous      con-sort      char-ter

Leftovers: Odd and Schwa syllable are usually final, unaccented syllables with odd spellings.

dam-age      act-ive      na-tion

## Syllable Type Sort

Sort these syllables into the correct headings.

re	sent	hu	mid	mi	nor
jun	gle	mark	boast	ful	lo
a	mong	tion			

Closed	C + Le	Open	Vowel Team	VCe	Vowel + r	Other

## Syllable Division Rules

<b>VC-CV: Two consonants between vowels.</b>	When syllables have two adjacent consonants between them, they are divided between the consonants. The first syllable will be closed (short vowel).	sub-let nap-kin pen-ny win-some
<b>V-CV and VC-C: One consonant between two vowels.</b>	First try dividing <i>before</i> the consonant. This makes the first syllable open and the vowel long. (This strategy works 75% of the time.)  If the word is not recognized, try dividing <i>after</i> the consonant. This makes the first syllable closed and the vowel short. (This strategy works 25% of the time.)	e-ven ra-bies de-cent  ev-er rab-id dec-ade riv-er
<b>Consonant Blends</b>	Consonant blends usually stick together. Do not separate digraphs when using the first two rules.	ei-ther spec-trum se-quin

## Spot and Dot with Syllable Types

Spot and Dot is a reading strategy that helps readers decode multi-syllabic words.

1. Find all of the vowels in a word. Draw a dot above each vowel
2. Connect the dots
3. Look at the number of consonants between the vowels
4. If there are three or four – break after the first consonant
5. If there are two – break between the consonants
6. If there is one – break before the consonant, and if it doesn't sound right move over one letter

## Morphemes

- A morpheme is the smallest meaningful unit of language.
- An inflection is a type of bound morpheme; a grammatical ending that does not change the part of speech of a word but marks its tense, number, or degree in English.

Examples of inflectional endings:

-s: \_\_\_\_\_ -es: \_\_\_\_\_  
-ed: \_\_\_\_\_ -ing: \_\_\_\_\_

- An affix is a prefix or suffix. To construct a complex word, we af-FIX (verb) an AF-fix (noun) to a root or base.
- A prefix is a morpheme that is “fixed” in place before (pre) the root or base.
- A suffix is a morpheme that is “fixed” in place after (suf = sub) to the root or base.

Examples of affixes:

-er: \_\_\_\_\_ -ly: \_\_\_\_\_  
-ful: \_\_\_\_\_ -less: \_\_\_\_\_  
-ish: \_\_\_\_\_ -or: \_\_\_\_\_  
un-: \_\_\_\_\_ pre-: \_\_\_\_\_  
mis-: \_\_\_\_\_ non-: \_\_\_\_\_  
re-: \_\_\_\_\_ dis-: \_\_\_\_\_

## Phoneme Grapheme Mapping

Students write the word in the first box, then map one phoneme to its grapheme in each of the boxes that follow.

sat	s	a	t			
spat	s	p	a	t		
skate	s	k	a_e	t		
straight	s	t	r	aigh	t	

# K.NBT What Makes a Teen Number?

## Task

Decompose teen numbers using 10-frames and a number equation.

## Materials

- Number cards 11-19
- Pencil, crayon, or marker
- Attached student worksheet

## Action

This activity can be done individually, in partners, or in small groups. The students have a teacher-made sheet and a writing implement. The cards are shuffled and placed face down.

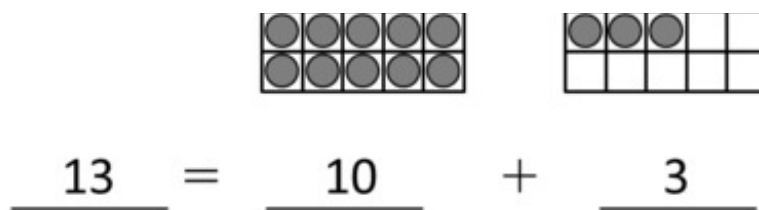

  

_____	=	_____	+	_____
-------	---	-------	---	-------

The student picks a card off of the top of the pile. The student then says the number and draws that many dots beginning with the first 10-frame. When the first 10-frame is filled, the student continues drawing the remaining dots in the next 10-frame. The student then fills in the blank equation with the corresponding numbers.

Example:





The student continues to pick cards and illustrate numbers in this way until all cards are used or the sheet is filled.

## IM Commentary

The purpose of this task is to help students understand the base-ten structure of teen numbers. This task was designed specifically to support students in developing fluency with tens and teen numbers.

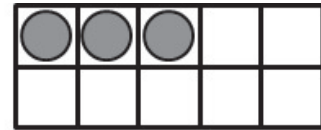
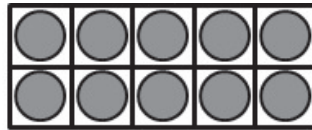
- Before starting this task, students should recognize that a full 10-frame represents 10 without having to count each dot, and also that a 10-frame can be partially filled to represent numbers less than 10.
- This activity can first be done orally, in a small teacher-led group or in pairs, using just the 10-frames and some counters.
- Students should know the meaning of the equals and plus signs if they are going to fill out the worksheet.
- Using a number line or number chart supports those students who do not know teen number names.

Computational fluency refers to having efficient, accurate, generalizable methods (algorithms) for computing numbers that are based on well-understood properties and number relationships (NCTM, 2000, p.144). Therefore, the focus in developing numeracy fluency should be more than the internalization of facts but on supporting students' natural development of number sense so that they are able to solve computations flexibly and efficiently using their understanding of place value and relationships between numbers.

Children's natural development of numbers progress from the concrete to the abstract, from counting all (e.g. physically making four counters and then making twelve and counting all the counters to get sixteen) to counting on (e.g. counting four more starting at twelve to get to sixteen) to using part-whole (e.g. splitting apart the twelve to ten and two, and adding the two to four, then adding the ten) and relational thinking (knowing that  $4 + 10$  is 14 so  $4 + 9$  would be just one less).

## Solution

Here is the solution for number 13:



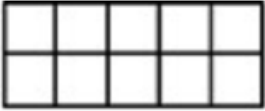
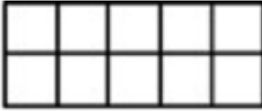
$$\underline{13} = \underline{10} + \underline{3}$$

The solutions for 11-19 follow the same pattern.

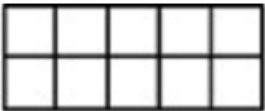
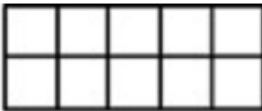


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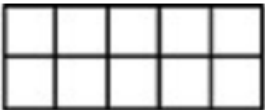
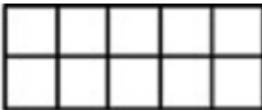
# What Makes a Teen Number?

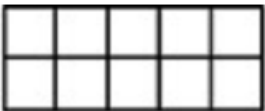
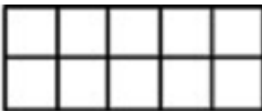
\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_

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## 1.NBT Number of the Day

## Task

## Materials

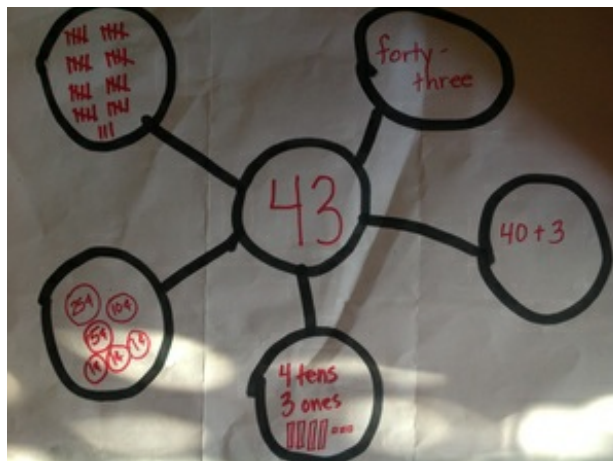
Large chart paper, markers, math journals, pencils, 100 chart.

### Directions

Students will count the "Number of the Day" beginning with 1 on the first day of school, and adding one number for each day of school. Each day the class will chorally count up to the last number added to the 100 chart (or a hand drawn chart of numbers) by 1s or 10s. The teacher will then add the next number in the counting sequence to the chart to represent the number of the current day (this way the chart grows by one for each day students are in school).



The teacher then draws a bubble map on chart paper with the number of the day in the middle bubble. The teacher models and guides students in drawing and writing the number in different ways; see the picture below.



## IM Commentary

This activity provides a connection between the counting sequence and an experience from students' daily lives. It helps to give the students a sense of how "many" each number is.

This task begins as a whole group activity with the teacher guiding instruction. Writing the number in different forms becomes an independent activity over time; however, the class should go over it together in order to make sure students are correctly completing the task.

Repeatable, daily activities are one of the best ways to instill the counting sequence for children. This task also reinforces many skills related to understanding and representing numbers, such as using tally marks, the word form, expanded form, and place value.

As the year progresses, the teacher can adjust the focus in response to the size of the number. For example, when the year starts and the numbers are in the single digits, this will be a relatively short activity; as the numbers get very large tally marks can be dropped from the activity, in favor of spending additional time on representing tens and ones.

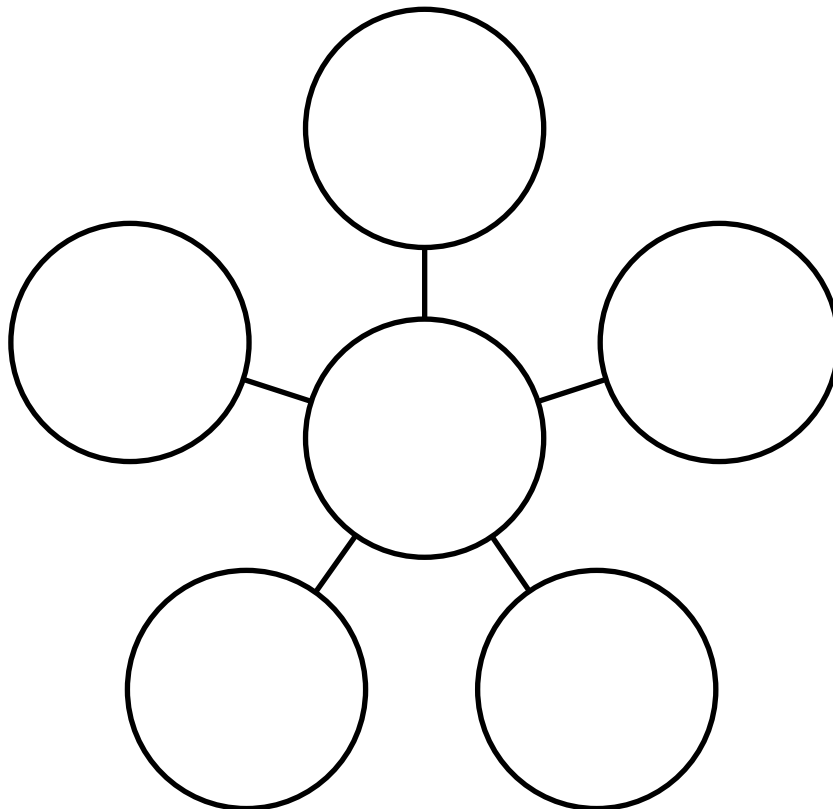
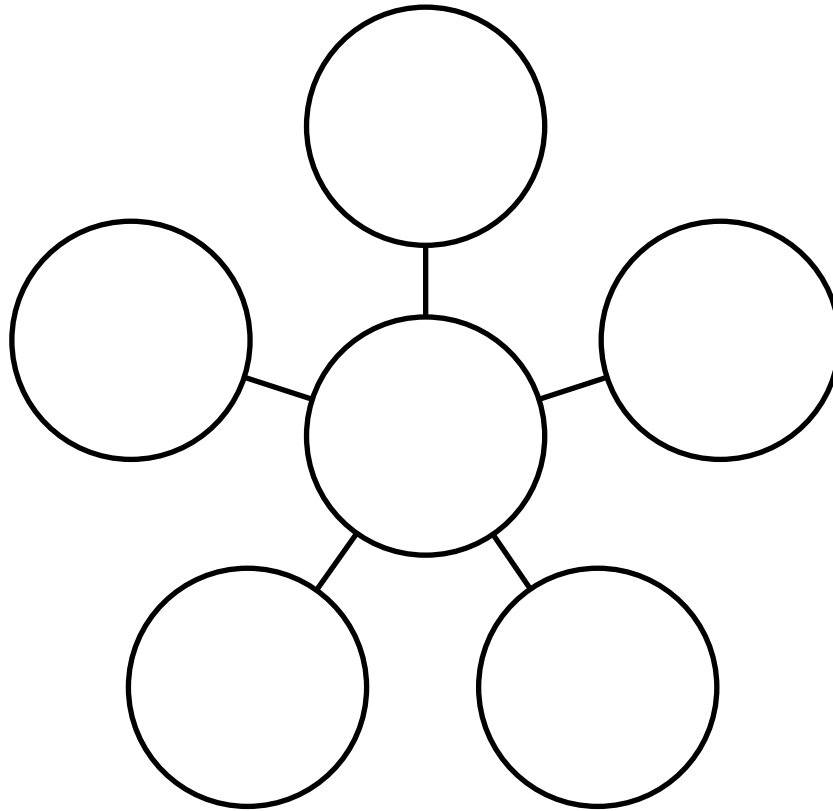
The first grade standard requires students to count to 120. However, if a teacher would like to extend the activity beyond 120 there is no reason to stop once the 120th day of school passes.

**Note:** Many 100 charts are sold in teacher stores although it may be more difficult to find a chart that goes above 100. The teacher can make their own on a large piece of chart paper by writing each day's number as the day happens, making sure to keep each column straight.



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# Bubble Map



## Mathematics Task Arcs

A task arc is a set of related lessons consisting of a series of instructional tasks and their associated lesson guides. The lessons are focused on a small number of standards within a domain of the Tennessee Academic Standards for Mathematics. In some cases a small number of related standards from more than one domain may be addressed.

Included in this task arc are a preview of the tasks and the content and practice standards associated with each task. Essential understandings which teachers strive to develop and solidify within their students across the arc are named in each lesson guide.

The tasks and lessons are sequenced in deliberate and intentional ways and are designed to be implemented consecutively and in their entirety. It is possible for students to develop a deep understanding of concepts because a small number of standards are targeted. Lesson concepts remain the same as the lessons progress; however, the context or representations may change.

Bias: Social, ethnic, racial, religious, and gender bias is best determined at the local level where educators have in-depth knowledge of the culture and values of the community in which students live. The TDOE asks local districts to review these curricular units for social, ethnic, racial, religious, and gender bias before use in local schools.

Copyright: These materials were developed with funds through a Math and Science Partnership (MSP) grant for the use of Tennessee educators. The format and framework for this task arc is adapted from the Sets of Related Lessons originally developed and copyrighted by the Institute for Learning (IFL) at the University of Pittsburgh (<http://ifl.pitt.edu/>).



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## **Grade 1: Understanding Place Value**

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A Set of Related Tasks and Lesson Guides

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## ARC OVERVIEW

This set of related tasks helps students to develop an understanding of whole number relationships, including grouping in tens and ones, which are critical for adding and subtracting whole numbers. Students should use a variety of models, including discrete objects, base ten blocks, and number lines, to model “part-whole” and “comparing” situations. Tasks 1-3 focus on understanding place value in the context of two-digit numbers. Tasks 4-6 utilize understanding of place value for two-digit numbers to compare numbers with words and symbols.

The Arc Preview table on page 4 provides all of the task questions contained in this arc. Note that the Essential Understandings listed in each task were taken from NCTM’s Developing Essential Understanding series. Tennessee State Mathematics Standards were retrieved from <http://www.tn.gov/education/standards/math.shtml>. These tasks are aligned to the 2.NBT.2 and 2.NBT.3 Content Standards of the Tennessee State Standards.

Through engaging in the lessons in this set of related tasks students will:







- Decompose a two-digit number
- Model two-digit numbers using base ten blocks
- Compare two-digit numbers using words and symbols
- Create two-digit numbers to satisfy inequalities

By the end of these six tasks, students will be able to answer the following overarching questions:

- How does adding a ten change a two-digit number?
- How many tens and ones are in a two-digit number?
- When comparing two-digit numbers, which place value should one look at first?
- What symbols are used for comparing numbers?

The assessing questions, advancing questions, and whole group questions provided in this guide will ensure that students are working in ways aligned to the Standards for Mathematical Practice. Although the students will not be aware that this is occurring, the teacher can guide the process so that each MP (Mathematical Practice) is covered through good explanations, understanding of context, and clarification of reasoning behind solutions.

## Arc Preview

<p><b>Task 1: The Crayon Box</b> Sam has 18 crayons. A crayon box holds 10 crayons.</p> <p>a) Create a place value chart and explain with numbers or words how many tens and ones Sam has.</p> <p>b) Does Sam have enough crayons to fill a box? Explain with numbers or words how you know.</p> <p>c) Does he have any leftover crayons that do not fit in the box? If so, how many crayons do not fit?</p>	<p><b>Goals for Task 1:</b></p> <ul style="list-style-type: none"> <li>Decompose a two-digit number</li> <li>Understand that a two-digit number is composed of tens and ones</li> <li>Create a place value chart</li> </ul> <p><b>Standards for Task 1:</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p><b>1.NBT.2a</b> 10 can be thought of as a bundle of ten ones-called a “ten.”</p> <p><b>1.NBT.2b</b> The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p>				
<p><b>Task 2: Base Ten Buddies</b> Kam and Jack are modeling numbers using base ten blocks.</p> <p>a) Kam has made his number with tens and ones but does not know his number’s name. What number does Kam have based on his place value chart? Explain how you know your answer is correct.</p> <div style="text-align: center;"> <p><b>Kam’s Number</b></p> <table style="margin: auto;"> <tr> <td style="text-align: center;"><u>tens</u></td> <td style="text-align: center;"><u>ones</u></td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;">  </td> </tr> </table> </div> <p>b) Jack knows his number’s name but does not know how to show his number with base ten blocks. Create a model with tens and ones to show Jack’s number.</p> <p style="text-align: center;"><b>Jack’s Number: 53</b></p> <p>c) Show another way to represent Jack’s number.</p>	<u>tens</u>	<u>ones</u>			<p><b>Goals for Task 2:</b></p> <ul style="list-style-type: none"> <li>Explore various representation of two-digit numbers based on place value</li> <li>Understand that a two-digit number is composed of tens and ones</li> <li>Model two-digit numbers using base ten blocks</li> <li>Name a two-digit number based on the number of tens and ones</li> </ul> <p><b>Standards for Task 2</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p><b>1.NBT.2a</b> 10 can be thought of as a bundle of ten ones — called a “ten.”</p>
<u>tens</u>	<u>ones</u>				
					

<p><b>Task 3: Two-Digit Land</b></p> <p>Max is using base ten blocks to make large numbers. He wants to represent ninety. He has 8 ones and 3 tens on his desk.</p> <p>a) What number is modeled by the blocks on his desk? Draw a model using tens and ones and write the number.</p> <p>b) What base ten blocks should he add to his desk to make ninety? Draw a model using tens and ones and write the number. How do you know you are correct?</p>	<p><b>Goals for Task 3:</b></p> <ul style="list-style-type: none"> <li>• Solidify understanding of two-digit numbers and each digit's place value</li> <li>• Reinforce the connection between writing and modeling two-digit numbers</li> <li>• Model two-digit numbers using base ten blocks</li> <li>• Name a two-digit number based on the number of tens and ones</li> <li>• Find a specified two-digit number by changing the given number of tens and ones</li> </ul> <p><b>Standards for Task 3:</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><b>1.NBT.2c</b> The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p>
<p><b>Task 4: The Blueberry Patch</b></p> <p>Elaine and Mike are at a blueberry patch to pick blueberries.</p> <p>a) Elaine picked 87 blueberries. Draw a picture using base ten blocks to show how many blueberries she has.</p> <p>b) Mike picked 78 blueberries. Draw a picture using base ten blocks to show how many blueberries he has.</p> <p>c) Compare the number of blueberries they have by using the words <i>greater than</i> or <i>less than</i> in a sentence. Explain how you know this.</p> <p>d) Compare the number of blueberries they have now by using <math>&gt;</math>, <math>&lt;</math>, or <math>=</math>.</p>	<p><b>Goals for Task 4:</b></p> <ul style="list-style-type: none"> <li>• Model two-digit numbers using base ten blocks</li> <li>• Compare two-digit numbers using words and symbols</li> </ul> <p><b>Standards for Task 4:</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p><b>1.NBT.2a</b> 10 can be thought of as a bundle of ten ones-called a "ten."</p> <p><b>1.NBT.3</b> Compare two two-digit numbers based on meaning of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>&lt;</math>, and <math>=</math>.</p>

<p><b>Task 5: Comparing Numbers</b></p> <p>Using the following digits, create 2-digit numbers to make each of the following comparisons true. Use place value to explain how you know each comparison is true.</p> <div><div>4</div><div>9</div><div>0</div><div>0</div><div>9</div><div>4</div></div> <p>a) _____ &gt; _____</p> <p>b) _____ &lt; _____</p> <p>c) _____ = _____</p>	<p><b>Goals for Task 5:</b></p> <ul style="list-style-type: none"><li>• Create two-digit numbers to satisfy inequalities</li></ul> <p><b>Standards for Task 5:</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><b>1.NBT.3</b> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols &gt;, =, and &lt;.</p>
<p><b>Task 6: Austin’s Aquarium</b></p> <p>Austin’s Aquarium includes 46 turtles, 88 seahorses, and 78 snails.</p> <p>a) Which creature does Austin have the most of? Use place value to explain how you know your answer is correct.</p> <p>b) Show a comparison of the turtles and snails using the &gt; symbol.</p> <p>c) Compare the numbers of turtles and seahorses using a comparison symbol of &lt;, &gt;, or =. Which is least? Explain your answer using words.</p>	<p><b>Goals for Task 6:</b></p> <ul style="list-style-type: none"><li>• Compare two-digit numbers using symbols</li><li>• Explain reasoning using knowledge of place value</li></ul> <p><b>Standards for Task 6:</b></p> <p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><b>1.NBT.3</b> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols &gt;, =, and &lt;.</p>

## Standards Alignment

Task	1.NBT.2	1.NBT.2a	1.NBT.2b	1.NBT.2c	1.NBT.3	MP 1	MP 2	MP 3	MP 4	MP 5	MP 6	MP 7	MP 8
<b>Task 1</b> <b>The Crayon Box</b>	✓	✓	✓			✓	✓	✓	✓		✓	✓	
<b>Task 2</b> <b>Base Ten Buddies</b>	✓	✓				✓	✓	✓	✓		✓		
<b>Task 3</b> <b>Two-Digit Land</b>	✓			✓		✓	✓	✓	✓			✓	
<b>Task 4</b> <b>The Blueberry Patch</b>	✓	✓			✓	✓	✓	✓	✓			✓	✓
<b>Task 5</b> <b>Comparing Two-Digit Numbers</b>	✓				✓	✓	✓	✓				✓	✓
<b>Task 6</b> <b>Austin's Aquarium</b>	✓				✓	✓	✓	✓				✓	✓

### The Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.





# Tennessee Department of Education: Lesson Guide 1

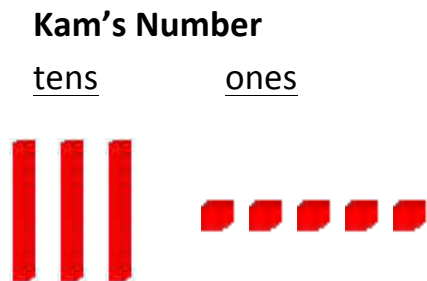
Task 1: The Crayon Box		1 <sup>st</sup> Grade
Sam has 18 crayons. A crayon box holds 10 crayons.		
a) Create a place value chart and explain with numbers or words how many tens and ones Sam has. b) Does Sam have enough crayons to fill a box? Explain with numbers or words how you know. c) Does he have any leftover crayons that do not fit in the box? If so, how many crayons do not fit?		
Teacher Notes:		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
<b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:  <b>1.NBT.2a</b> 10 can be thought of as a bundle of ten ones-called a “ten.”  <b>1.NBT.2b</b> The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	1. Makes sense and perseveres in solving problems. 2. Reasons abstractly and quantitatively. 3. Constructs viable arguments and critiques the reasoning of others. 4. Models with mathematics. 5. Uses appropriate tools strategically. 6. Attends to precision. 7. Looks for and makes use of structure. 8. Looks for and expresses regularity in repeated reasoning.	
Essential Understandings:		
<ul style="list-style-type: none"><li>Two digit numbers are composed of tens and ones.</li><li>Ten can be thought of as ten ones.</li><li>For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.</li><li>Numbers can be represented using objects, words and symbols.</li><li>Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</li></ul>		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
a) Students create a place value chart with 1 ten and 8 ones by reasoning that 10 and 8 make 18 crayons.  b) Students explain that since there is one 10 on the place value chart he has enough crayons to fit in the crayon box.  c) Since there are 8 ones there will be 8 leftover.	<b>Assessing Questions:</b> <ul style="list-style-type: none"><li>How did you determine the number of tens and ones?</li><li>Can you tell me how you thought about the number 18?</li><li>If Sam had 21 crayons, how would that change your place value chart?</li></ul> <b>Advancing Questions:</b> <ul style="list-style-type: none"><li>What happens to the number of ones when you put the ten ones with the leftover 8?</li></ul>	
<b>Alternate Path part b) and c):</b> Students determine that 10 will fit in one crayon box and the rest will not by counting up to 18. Students reason that after counting to 10, all other numbers between 11-18 are leftover and become all ones, for a total of 8.	<b>Assessing Questions:</b> <ul style="list-style-type: none"><li>Why did you choose to count up from 1 to 18?</li><li>Is there a way you can check to see that your answers are correct?</li></ul> <b>Advancing Questions:</b> <ul style="list-style-type: none"><li>How many tens and ones do you have?</li></ul>	

Possible Student Misconceptions	Assessing and Advancing Questions
Students put 0 tens and 18 ones.	<ul style="list-style-type: none"> <li>Does your answer make sense?</li> <li>Can you tell me about your 18 ones? How would you make a bundle using some of those ones?</li> <li>How is 18 different than 81?</li> </ul>
Students place the 8 in tens column and 1 in the ones column.	<ul style="list-style-type: none"> <li>Can you tell me about the number you just made?</li> <li>How would this look if you used base ten blocks?</li> <li>Can you write this number for me using this place value chart you made? Does it make sense?</li> </ul>
Entry/Extensions	Assessing and Advancing Questions
If students can't get started....	<ul style="list-style-type: none"> <li>What is the problem asking you to do?</li> <li>Can you draw a place value chart labeled tens and ones?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>How many more crayons does Sam need to fill 2 crayon boxes?</li> <li>How will your place value chart change if Sam gets 10 more crayons?</li> </ul>
Discuss/Analyze	
Whole Group Questions	
<ul style="list-style-type: none"> <li>What are some different ways you thought about the number 18?</li> <li>What are some other examples/discussions when we have used tens and ones? (base ten blocks, ten frames, or linking cubes)</li> <li>How would this look if Sam had a 0 instead of an 8 at the end of his number?</li> <li>How many more crayons does Sam need to fill 2 crayon boxes?</li> </ul>	

**Task 2: Base Ten Buddies**

Kam and Jack are modeling numbers using base ten blocks.

- a) Kam has made his number with tens and ones but does not know his number's name. What number does Kam have based on his place value chart? Explain how you know your answer is correct.



- b) Jack knows his number's name but does not know how to show his number with base ten blocks. Create a model with tens and ones to show Jack's number.

**Jack's Number: 53**

- c) Show another way to represent Jack's number.

**Task 2: Base Ten Buddies****1<sup>st</sup> Grade**

Kam and Jack are modeling numbers using base ten blocks.

- a) Kam has made his number with tens and ones but does not know his number's name. What number does Kam have based on his place value chart? Explain how you know your answer is correct.

**Kam's Number**tensones

- b) Jack knows his number's name but does not know how to show his number with base ten blocks. Create a model with tens and ones to show Jack's number.

**Jack's Number 53**

- c) Show another way to represent Jack's number.

**Teacher Notes:**

Students should not be limited to using only a place value chart.

<b>Tennessee State Standards for Mathematical Content</b>	<b>Tennessee State Standards for Mathematical Practice</b>
<p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p><b>1.NBT.2a</b> 10 can be thought of as a bundle of ten ones — called a "ten."</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>

**Essential Understandings:**

- Two digit numbers are composed of tens and ones.
- For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.
- Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.
- Numbers can be represented using objects, words and symbols.

<b>Explore Phase</b>	
<b>Possible Solution Paths</b>	<b>Assessing and Advancing Questions</b>
<p><b>a)</b> Students indicate that Kam has the number 35 and explains that thirty comes from the three tens and the five comes from the five ones.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>What does the digit 3 represent in Kam's number?</li> <li>Can you tell me about your strategy?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you show me where this number is on a hundred chart?</li> </ul>
<p><b>b)</b> Students use one of the following representations for Jack's number, 53:</p> <ul style="list-style-type: none"> <li>Modeling with base ten blocks</li> <li>Creating a place value chart</li> <li>Linking cubes</li> <li>Writing 50 and 3</li> </ul>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you tell me about your model?</li> <li>What does the digit 5 represent in Jack's number? 3?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you show me where this number is on a hundred chart?</li> <li>Can you tell me how many tens you have? What about ones?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
<p>Students may miscalculate Kam's number by not distinguishing between ones and tens.</p>	<ul style="list-style-type: none"> <li>How many ones does it take to make a ten?</li> <li>Can you circle /identify the group of tens and count them out loud?</li> <li>Can you circle/identify the group of ones and count them out loud?</li> </ul>
<p>Students may reverse the tens and ones digits and say that Kam and Jack have the same number.</p>	<ul style="list-style-type: none"> <li>Can you explain how your model represents Jack's number?</li> <li>Which person has the larger number? How do you know?</li> <li>Which person has the smaller number? How do you know?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
<p>If students can't get started....</p>	<ul style="list-style-type: none"> <li>What is the problem asking?</li> <li>What is something you know about this problem?</li> <li>Could you try this with smaller numbers? (less than 20)</li> <li>How many ones make up a ten?</li> </ul>
<p>If students finish early....</p>	<ul style="list-style-type: none"> <li>What have you learned from this task?</li> <li>What do you still not understand about place value?</li> <li>What number would Kam have if he had one more ten?</li> <li>Can you place both Kam's and Jack's numbers on a number line?</li> </ul>

## Discuss/Analyze

### Whole Group Questions

Pick groups to share their work. Select a sequence that will progress students through higher order thinking.


- Did anyone think about these numbers being the same? Why or why not?
- Can you tell me how Kam's number is different from Jack's? What part of the number can you change to make the numbers the same?
- Can you show 5 groups of ten and tell me which person has them?
- What are some ideas that we have already learned that were useful in solving this problem?
- What are some different ways to show Kam's number, other than the place value chart?

**Name** \_\_\_\_\_



### Task 3: Two-Digit Land

Max is using base ten blocks to make large numbers. He wants to represent ninety. He has 8 ones and 3 tens on his desk.

- a) What number is modeled by the blocks on his desk? Draw a model using tens and ones and write the number.
- b) What base ten blocks should he add to his desk to make ninety? Draw a model using tens and ones and write the number. How do you know you are correct?

Task 3: Two-Digit Land		1 <sup>st</sup> Grade
Max is using base ten blocks to make large numbers. He wants to represent ninety. He has 8 ones and 3 tens on his desk.		
a) What number is modeled by the blocks on his desk? Draw a model using tens and ones and write the number.		
b) What base ten blocks should he add to his desk to make ninety? Draw a model showing the tens and ones you add and write that number. How do you know you are correct?		
Teacher Notes:		
Ask students to make “noticings” about the model in part a) and make a connection to part b).		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
<p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><b>1.NBT.2c</b> The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p>	<ol style="list-style-type: none"><li>1. Makes sense and perseveres in solving problems.</li><li>2. Reasons abstractly and quantitatively.</li><li>3. Constructs viable arguments and critiques the reasoning of others.</li><li>4. Models with mathematics.</li><li>5. Uses appropriate tools strategically.</li><li>6. Attends to precision.</li><li>7. Looks for and makes use of structure.</li><li>8. Looks for and expresses regularity in repeated reasoning.</li></ol>	
Essential Understandings:		
<ul style="list-style-type: none"><li>Counting up with bundles of tens can create numbers of 10,20,30,40,50,60,70,80, and 90.</li><li>Counting up with ten ones can create a ten.</li><li>Counting up with tens can make numbers ending in zero.</li><li>For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.</li><li>Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</li></ul>		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
<p>Part a) Students model as follows:</p>  <p>Students write 38.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"><li>Can you tell me about your model?</li><li>Can you tell me about the ones you see?</li><li>What number is represented by the three rods? The eight units?</li></ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"><li>What base ten block represents the ones?</li><li>How many ones are on the desk?</li><li>What base ten block represents the tens?</li><li>How many tens are on the desk?</li></ul>	
<p><b>Part b)</b></p> <p>Students add two more ones to the eight given in the problem to make a ten.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"><li>Why did you decide to add two more ones?</li><li>Why did you decide to add five more tens?</li></ul>	



<p>The students then add five more tens for a total of eight tens. The total amount would be 90.</p> <p>Students start with:</p>  <p>Students add:</p>  <p>Students reason they know they are correct because each rod has value 10 and each unit has value one and using this they skip count up to 80 and then count by one from there to 90.</p>	<ul style="list-style-type: none"> <li>Why would it be incorrect to add six more tens?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>How many ones do you have? How many more are needed to make a bundle of ten?</li> <li>How many tens do you have?</li> <li>Can you skip count by tens aloud from 30 to 90?</li> </ul>
Possible Student Misconceptions	Assessing and Advancing Questions
<p><b>a)</b> Students see the 8 as tens and then the 3 as ones and end up with 83 on the desk.</p>	<ul style="list-style-type: none"> <li>When reading the question aloud, what do you see about each digit?</li> <li>How many ones does Max have? How many ones are in 83?</li> <li>How many tens does Max have? How many tens are in 83?</li> </ul>
<p><b>b)</b> Students add six tens to the three on his desk (in addition to two ones).</p>	<ul style="list-style-type: none"> <li>Can you tell me the total of the base ten blocks on the desk now?</li> </ul>
<p><b>b)</b> Students do not explain correctly in words how many rods and ones should be added to make the number 90. It is a not a reasonable answer if students draws a correct representation but does not explain correctly the part that was added to make 90.</p>	<ul style="list-style-type: none"> <li>What number did you make? Can you show me how you represented this in your model?</li> <li>Can you show me the part of your answer that was already on his desk? What is the total of the blocks you added?</li> <li>Can you circle the part of your drawing that Max added up to make 90?</li> <li>Can you explain how you counted up to make this number?</li> <li>How many ones does he need to add to the 8 ones to make a ten?</li> </ul>
Entry/Extensions	Assessing and Advancing Questions
<p>If students can't get started....</p>	<ul style="list-style-type: none"> <li>What is something you know about the problem?</li> <li>How many ones does Max have? Tens?</li> <li>Can you skip count by tens?</li> </ul>
<p>If students finish early....</p>	<ul style="list-style-type: none"> <li>What would happen if you added one more bundle of 10 to this number?</li> <li>Can you explain how this would look if Max had 8 rods and 3 ones? How many tens and ones would he need to add to his desk to make 90?</li> </ul>

	<ul style="list-style-type: none"> <li>• Can you share with a friend how you solved the problem?</li> <li>• Can you show a different way to represent the number 90?</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>• What ideas have you learned before that were helpful in solving this problem?</li> <li>• How does adding a ten change a two-digit number?</li> <li>• What strategies did you use to solve this problem?</li> <li>• How many tens are there in 90? Why did you only add five tens since you started with three?</li> <li>• What have you learned from this task?</li> </ul>	

**Task 4: The Blueberry Patch**

Elaine and Mike are at a blueberry patch to pick blueberries.

- a) Elaine picked 87 blueberries. Draw a picture using base ten blocks to show how many blueberries she has.
  
  
  
  
  
  
  
  
  
  
- b) Mike picked 78 blueberries. Draw a picture using base ten blocks to show how many blueberries he has.
  
  
  
  
  
  
  
  
  
  
- c) Compare the number of blueberries they have by using the words *greater than* or *less than* in a sentence. Explain how you know this.
  
  
  
  
  
  
  
  
  
  
- d) Compare the number of blueberries they have now by using  $>$ ,  $<$ , or  $=$ .

Task 4: The Blueberry Patch		1 <sup>st</sup> Grade
Elaine and Mike are at a blueberry patch to pick blueberries.		
<div>a) Elaine picked 87 blueberries. Draw a picture using base ten blocks to show how many blueberries she has.</div> <div>b) Mike picked 78 blueberries. Draw a picture using base ten blocks to show how many blueberries he has.</div> <div>c) Compare the number of blueberries they have by using the words <i>greater than</i> or <i>less than</i> in a sentence. Explain how you know this.</div> <div>d) Compare the number of blueberries they have now by using &gt;, &lt;, or =.</div>		
Teacher Notes:		
Tennessee State Standards for Mathematical Content	TennesseeState Standards for Mathematical Practice	
<div>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</div> <div>1.NBT.2a 10 can be thought of as a bundle of ten ones — called a "ten."</div> <div>1.NBT.3 Compare two two-digit numbers based on meaning of the tens and ones digits, recording the results of comparisons with the symbols &gt;, &lt;, and =.</div>	<div>1. Make sense of problems and persevere in solving them.</div> <div>2. Reason abstractly and quantitatively.</div> <div>3. Construct viable arguments and critique the reasoning of others.</div> <div>4. Model with mathematics.</div> <div>5. Use appropriate tools strategically.</div> <div>6. Attend to precision.</div> <div>7. Look for and make use of structure.</div> <div>8. Look for and express regularity in repeated reasoning.</div>	
Essential Understandings:		
<div><div>• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.</div><div>• Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</div><div>• Numbers can be represented using objects, words and symbols.</div><div>• A number to the right of another on the number line is the greater number.</div><div>• Numbers can be compared using greater than, less than, or equal.</div><div>• Whole numbers can be compared by analyzing corresponding place values.</div></div>		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
<div>Parts a) and b)</div> <div>Students correctly show the numbers using drawings of base ten blocks. This may include various representations using groups of tens and ones. (ie: 87, eight tens and seven ones, seven tens and seventeen ones, six tens and 27 ones, etc.)</div>	<div>Assessing Questions:</div> <div><div>• What did you draw?</div><div>• How did you know which blocks to use?</div></div> <div>Advancing Questions:</div> <div><div>• How many tens are in 87? (78?) How many ones are in 87? (78?)</div></div>	

<p><b>c)</b> Students correctly compare the amount of blueberries:  87 is greater than 78 OR 78 is less than 87.</p> <p>Justification of each may include, but not limited to,</p> <ul style="list-style-type: none"> <li>• 78 comes before 87 on the number line,</li> <li>• 87 comes after 78 on the number line,</li> <li>• 87 has more tens than 78,</li> <li>• 9 more ones are needed to make 87</li> <li>• 87 is lower on the hundred chart than 78</li> </ul>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>• How did you know which number is greater?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>• Who has the most groups of ten? How do you know?</li> </ul>
<p><b>d)</b> <math>78 &lt; 87</math> OR <math>87 &gt; 78</math>.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>• How did you know what symbol to use?</li> <li>• Can you read your answer aloud?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>• What symbols are used to compare numbers?</li> <li>• What do you know about the symbols <math>&lt;</math>, <math>&gt;</math>, <math>=</math>?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
<p><b>Parts a) and b)</b>  Students may transpose the numbers to show 78 for Elaine and 87 for Mike. Encourage students to use their base ten blocks drawings.</p>	<ul style="list-style-type: none"> <li>• Can you explain what you have done so far?</li> <li>• Does your answer seem reasonable?</li> <li>• How many blueberries does Elaine have? How many did you draw?</li> <li>• How many blueberries does Mike have? How many did you draw?</li> </ul>
<p><b>Parts c) and d)</b>  Students may use the correct comparative language, but they do not have the correct symbol to compare the numbers.</p>	<ul style="list-style-type: none"> <li>• What ideas have we discussed can be helpful in comparing numbers?</li> <li>• Can you read your answer aloud?</li> <li>• What symbols are used to compare numbers?</li> <li>• What do you know about the symbols <math>&lt;</math>, <math>&gt;</math>, <math>=</math>?</li> <li>• How would the sentence read if you put the smallest number first? Which symbol should be used in this comparison?</li> <li>• Is there a strategy you can use to help you know which symbol should be used?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
<p>If students can't get started....</p>	<ul style="list-style-type: none"> <li>• What do you know about the problem?</li> <li>• What is the problem asking?</li> <li>• How can you show these numbers on a number line or on a hundreds chart?</li> <li>• How can you show that in a drawing?</li> </ul>
<p>If students finish early....</p>	<ul style="list-style-type: none"> <li>• Can you write about what you have learned or found out today?</li> <li>• How would you compare the numbers if Elaine had a 7 in the tens place instead of an 8?</li> </ul>

	<ul style="list-style-type: none"> <li>Which is greater, the largest two-digit number or the smallest three-digit number?</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>How many groups of tens make up 78 and 87? How many ones?</li> <li>When comparing two two-digit numbers, should we look at the ones or tens first?</li> <li>When placing numbers on a number line, how can you tell which number is greater?</li> <li>Choose two numbers between 10 and 100 to compare using math symbols.</li> <li>Make the claim that 78 is closer to 50 than it is to 100. Have students argue why or why not it is correct.</li> </ul>	

Name \_\_\_\_\_

### Task 5: Comparing Numbers

Using the following digits, create 2-digit numbers to make each of the following comparisons true. Use place value to explain how you know each comparison is true.

4	9	0	0	9	4
---	---	---	---	---	---

a) \_\_\_\_\_ > \_\_\_\_\_

b) \_\_\_\_\_ < \_\_\_\_\_

c) \_\_\_\_\_ = \_\_\_\_\_

**Task 5: Comparing Numbers****1<sup>st</sup> Grade**

Using the following digits, create two-digit numbers to make each of the following comparisons true. Use place value to explain how you know each comparison is true.

4	9	0	0	9	4
---	---	---	---	---	---

a) \_\_\_\_\_ &gt; \_\_\_\_\_

b) \_\_\_\_\_ &lt; \_\_\_\_\_

c) \_\_\_\_\_ = \_\_\_\_\_

**Teacher Notes:**

If students struggle with this exercise, have six number cards with each digit written on the card and a card for each math symbol. Let the student manipulate these cards to create numbers for each comparison.

Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice
<p><b>1.NBT.2</b> Understand that the two digits of a two-digit number represent amounts of tens and ones.</p> <p><b>1.NBT.3</b> Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols &gt;, =, and &lt;.</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>

**Essential Understandings:**

- Two-digit numbers are composed of tens and ones.
- For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.
- Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.
- A number to the right of another on the number line is the greater number.
- Numbers can be compared using greater than, less than, or equal.
- Whole numbers can be compared by analyzing corresponding place values.



Explore Phase	
Possible Solution Paths	Assessing and Advancing Questions
<p>The students create two two-digit numbers for each symbol, comparing them correctly using each symbol. Number possibilities will vary.</p> <p>Students should be able to explain that if the tens place is the same value, then move to the ones place to determine which is greater, less, or equal to.</p> <p>Their comparisons will be correctly noted with symbols and explanations using understanding of place value for comparing each number.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you read the numbers, including the words naming the symbols to me?</li> <li>Can you tell me how many tens and ones make up each number you compared?</li> <li>How did you determine which was the greater/lesser number?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>How would you know if a number is larger than another number?</li> <li>Can you model your numbers with base ten blocks?</li> </ul>
Possible Student Misconceptions	Assessing and Advancing Questions
<p>Students create 2 two-digit numbers that are exactly the same showing a correct example of the = symbol, but are unable to correctly show the same for the &gt; and &lt; symbol.</p>	<ul style="list-style-type: none"> <li>What do you know about the symbols &lt; and &gt;?</li> <li>Can you read the symbols aloud?</li> <li>Can you read the numbers you created aloud, placing your finger under the numbers as you read?</li> <li>Which digits should you use to compare these numbers?</li> </ul>
Entry/Extensions	Assessing and Advancing Questions
<p>If students can't get started...</p>	<ul style="list-style-type: none"> <li>Can you represent the numbers you created with base ten blocks? Which base ten blocks represent the ones? The tens?</li> </ul>
<p>If students finish early....</p>	<ul style="list-style-type: none"> <li>What part of the number can you change to make it greater/smaller?</li> <li>Can you place all of your numbers on a number line?</li> <li>If you added 10 more to the lesser number, would your symbol change? How do you know?</li> <li>Can you create two three-digit numbers and compare them using symbols?</li> </ul>
Discuss/Analyze	
Whole Group Questions	
<ul style="list-style-type: none"> <li>What is the smallest number with 4 tens? What is the largest number with 4 tens?</li> <li>Can anyone share how you compare numbers?</li> <li>If I give you the number 63, can you fill in the blank (write on board) <math>63 &gt; \underline{\quad}</math>? <math>63 &lt; \underline{\quad}</math>?</li> <li>How does this strategy of comparing 2-digit numbers help us with 3- digit numbers?</li> </ul>	

Name \_\_\_\_\_

### Task 6: Austin's Aquarium

Austin's Aquarium includes 46 turtles, 88 seahorses, and 78 snails.

- a) Which creature does Austin have the most of? Use place value to explain how you know your answer is correct.
  
  
  
  
  
  
  
  
  
  
- b) Show a comparison of the number of turtles and snails using the  $>$  symbol.
  
  
  
  
  
  
  
  
  
  
- c) Compare the numbers of turtles and seahorses using a comparison symbol of  $<$ ,  $>$ , or  $=$ . Which is least? Explain your answer using words.

Task 6: Austin’s Aquarium		1 <sup>st</sup> Grade
Austin’s Aquarium includes 46 turtles, 88 seahorses, and 78 snails.		
a) Which creature does Austin have the most of? Use place value to explain how you know your answer is correct.		
b) Show a comparison of the turtles and snails using the > symbol. Explain your answer using words.		
c) Compare the numbers of turtles and seahorses using a comparison symbol of <, >, or =. Explain your answer using words.		
Teacher Notes:		
Students should have access to manipulatives, such as cubes, counters, etc., to use as needed.		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.	1. Makes sense and perseveres in solving problems.	
1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	2. Reasons abstractly and quantitatively.	
	3. Constructs viable arguments and critiques the reasoning of others.	
	4. Models with mathematics.	
	5. Uses appropriate tools strategically.	
	6. Attends to precision.	
	7. Looks for and makes use of structure.	
	8. Looks for and expresses regularity in repeated reasoning.	
Essential Understandings:		
• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.		
• Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.		
• A number to the right of another on the number line is the greater number.		
• Numbers can be compared using greater than, less than, or equal.		
• Whole numbers can be compared by analyzing corresponding place values.		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
a) The largest group is seahorses. Possible explanations include, but are not limited to:	Assessing Questions:	
• 88 is the largest number based on 8 tens and 8 ones,	• How did you determine that 88 seahorses is the largest animal group?	
• 88 comes after 78 and 46 when counting up	Advancing Questions:	
• 88 lies to the right of 78 and 46 on the number line	• Can you place these three numbers on a number line?	
• 88 has the most tens when built with base ten blocks	• Which place value determines if a number is greater than another number?	
b) The comparison of snails and turtles shows 78 > 46.	Assessing Questions:	
	• Which place value helped you determine how to write your comparison?	

	<ul style="list-style-type: none"> <li>How did you determine to place 78 in front of the &gt; symbol?</li> </ul> <b>Advancing Questions:</b> <ul style="list-style-type: none"> <li>Can you place these numbers on a number line and explain how this helps to show that you used the correct symbol?</li> <li>What does the &gt; symbol mean?</li> </ul>
<b>c)</b> The comparison of turtles and seahorses can be shown by $88 > 46$ or $46 < 88$ . “88 seahorses are greater than 46 turtles” or “46 turtles are less than 88 seahorses.”	<b>Assessing Questions:</b> <ul style="list-style-type: none"> <li>How did you determine which number is the largest?</li> </ul> <b>Advancing Questions:</b> <ul style="list-style-type: none"> <li>Which place value should you use to determine which number is largest?</li> <li>Which number has the most tens?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
<b>b)</b> Comparison is incorrect showing $46 > 78$ . Understanding of the symbol meaning is not clear.	<ul style="list-style-type: none"> <li>Can you read <math>46 &gt; 78</math> using words?</li> <li>Which number appears first on a number line?</li> <li>Is there a strategy we have previously used to help us determine which symbol reads as “less than” or “greater than”?</li> <li>Can you explain the place value of each digit in the numbers 46 &amp; 78?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
If students can't get started....	<ul style="list-style-type: none"> <li>What do you know about the problem?</li> <li>How many tens are used to make each number?</li> <li>Can you use base ten blocks to build each number?</li> <li>Can you use this model to order the numbers from least to greatest?</li> <li>Can you read these numbers out loud?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>Can you make three 3-digit numbers to compare?</li> <li>Which is greater, the largest 2-digit number or the smallest 3-digit number?</li> <li>How would the number 46 change if you added one hundred to it?</li> <li>Can you create a number line to place all of the numbers used in the problem? Be ready to tell a fact about the number on the far right.</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>How can we determine which animal group is the largest?</li> <li>Can anyone share their way of thinking when comparing numbers? Did anyone compare numbers in</li> </ul>	

a different way?

- How is it possible that students choose different ways to compare numbers using the math symbols?
- Let's compare and contrast the numbers in the problem? What similarities do you see? What differences do you see?

## Mathematics Task Arcs

A task arc is a set of related lessons consisting of a series of instructional tasks and their associated lesson guides. The lessons are focused on a small number of standards within a domain of the Tennessee Academic Standards for Mathematics. In some cases a small number of related standards from more than one domain may be addressed.

Included in this task arc are a preview of the tasks and the content and practice standards associated with each task. Essential understandings which teachers strive to develop and solidify within their students across the arc are named in each lesson guide.

The tasks and lessons are sequenced in deliberate and intentional ways and are designed to be implemented consecutively and in their entirety. It is possible for students to develop a deep understanding of concepts because a small number of standards are targeted. Lesson concepts remain the same as the lessons progress; however, the context or representations may change.

Bias: Social, ethnic, racial, religious, and gender bias is best determined at the local level where educators have in-depth knowledge of the culture and values of the community in which students live. The TDOE asks local districts to review these curricular units for social, ethnic, racial, religious, and gender bias before use in local schools.

Copyright: These materials were developed with funds through a Math and Science Partnership (MSP) grant for the use of Tennessee educators. The format and framework for this task arc is adapted from the Sets of Related Lessons originally developed and copyrighted by the Institute for Learning (IFL) at the University of Pittsburgh (<http://ifl.pitt.edu/>).

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## **Grade 2: Number System and Place Value**

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A Set of Related Tasks and Lessons

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## ARC OVERVIEW

This set of related tasks helps students to develop an understanding of place value, including modeling numbers with pictures and objects, understanding the value of each place, comparing numbers, skip counting within 1,000, and reading and writing numbers in word form. Students should use a variety of models, including base ten blocks and number lines, to demonstrate their understanding of place value and to compare numbers.

Task 1 focuses on skip counting within 1,000. If money standard 1.MD.6 hasn't been taught, this arc can be used, skipping task 1 and proceeding through tasks 2 – 6. Tasks 2 and 3 focus on representing numbers with base ten blocks. Task 4 focuses on reading numbers in word form and writing numbers in expanded form. Tasks 5 and 6 focus on creating and comparing numbers.

The Arc Preview table on page 4 provides all of the task questions contained in this arc. Note that the Essential Understandings listed in each task were taken from “Big Ideas and Understandings as the Foundation for Elementary and Middle School Mathematics.”<sup>1</sup> Tennessee State Mathematics Standards were retrieved from <http://www.tn.gov/education/standards/math.shtml>. These tasks are aligned to the 2.NBT.1 through 2.NBT.4 Tennessee State Standards for Mathematics.

Through engaging in the lessons in this set of related tasks students will:

- Skip count by 5s and 10s within 1,000
- Apply skip counting skills to money
- Write numbers in expanded form
- Create and compare two- and three-digit numbers using base ten blocks, words, and symbols
- Critique representations of three-digit numbers shown as base ten blocks
- Sort numbers by student-chosen attributes
- Understand the role of place value in comparing three-digit numbers
- Read numbers in word form and write numbers in expanded form

By the end of these six tasks, students will be able to answer the following overarching questions:

- What patterns in numbers do you recognize when skip counting by 5s and 10s?
- How does building numbers with base ten blocks help you understand the value of numbers?
- What is similar about word form and expanded form?
- What strategies work when creating the largest and smallest three-digit numbers?
- What strategies work when creating and comparing three-digit numbers?




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<sup>1</sup> Charles, Randall I. “Big Ideas and Understandings as the Foundation for Elementary and Middle School Mathematics.” *Journal of Mathematics Education Leadership* 7.3 (2005) : 9-24. Print.

The assessing questions, advancing questions, and whole group questions provided in this guide will ensure that students are working in ways aligned to the Standards for Mathematical Practice. Although the students will not be aware that this is occurring, the teacher can guide the process so that each MP (Mathematical Practice) is covered through good explanations, understanding of context, and clarification of reasoning behind solutions.

## Arc Preview

<p><b>Task 1: The Birthday Scarf</b></p> <p>Maggie wanted to buy her mother a scarf for her birthday that costs \$9.00. She emptied her piggy bank to see how much money she had. She sorted her coins and had a 39 dimes and 57 nickels.</p> <p>a) How much money did she have in dimes in all?</p> <p>b) How much money did she have in nickels in all?</p> <p>c) Does Maggie have enough money to buy the scarf? Model using numbers, illustrations, and words to explain your thinking and tell how skip counting can help you solve this problem.</p>	<p><b>Goals for Task 1:</b></p> <ul style="list-style-type: none"> <li>Skip count by 5s and 10s within 1,000</li> <li>Apply skip counting skills to money</li> </ul> <p><b>Standards for Task 1:</b></p> <p><b>2.NBT.2</b> Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p><b>2.MD.6</b> Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i></p>
<p><b>Task 2: How Many Ways?</b></p> <p>Autumn was creating numbers using base ten blocks. She used 13 blocks to create the numbers.</p> <p>a) List at least four two-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the two-digit numbers.</p> <p>b) List at least four three-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the three-digit numbers.</p>	<p><b>Goals for Task 2:</b></p> <ul style="list-style-type: none"> <li>Create two- and three-digit numbers using base ten blocks</li> <li>Count base ten blocks to determine the number they represent</li> </ul> <p><b>Standards for Task 2:</b></p> <p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <ol style="list-style-type: none"> <li>100 can be thought of as a bundle of ten tens — called a “hundred.”</li> <li>The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</li> </ol> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.</p>

<p><b>Task 3: Building Numbers with Base Ten</b></p> <p>Brandon, Austin, and Emily are building the number 435 using base ten blocks. Each has displayed the number in different ways.</p> <p><b>Brandon's Representation</b></p>  <p><b>Austin's Representation</b></p>  <p><b>Emily's Representation:</b></p>  <p>1. Is each representation correct or incorrect? Explain your answer?</p> <ol style="list-style-type: none"> <li>Brandon:</li> <li>Austin:</li> <li>Emily:</li> </ol> <p>a) Is there another way to represent the number 435? Explain.</p>	<p><b>Goals for Task 3:</b></p> <ul style="list-style-type: none"> <li>• Critique representations of three-digit numbers shown as base ten blocks</li> <li>• Realize that ten ones is a “ten”</li> <li>• Create different ways of representing a number using base ten blocks</li> </ul> <p><b>Standards for Task 3:</b></p> <p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <ol style="list-style-type: none"> <li>100 can be thought of as a bundle of ten tens — called a “hundred.”</li> <li>The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</li> </ol>
<p><b>Task 4: Number Word Sort</b></p> <p>Brandon was helping his teacher sort some number word flash cards.</p> <ol style="list-style-type: none"> <li>Sort the cards into different piles. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.</li> <li>Re-sort the number word cards a second time using a different rule. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.</li> </ol>	<p><b>Goals for Task 4:</b></p> <ul style="list-style-type: none"> <li>• Connect the word form of numbers with the numeric form</li> <li>• Sort numbers by student-chosen attributes</li> <li>• Write numbers in expanded form</li> </ul> <p><b>Standards for Task 4:</b></p> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.</p>

<p><b>Task 5: Comparing 3-digit numbers</b> Create 3-digit numbers, using the digits 3, 0, 5, and 8, that make each of the following comparisons true. You may use the digits more than once. Use place value to explain how you know each comparison is true.</p> <p>a) _____ &gt; _____</p> <p>b) _____ &lt; _____</p> <p>c) _____ = _____</p> <p>.</p>	<p><b>Goals for Task 5:</b></p> <ul style="list-style-type: none"> <li>• Create and compare three-digit numbers using symbols</li> <li>• Reason about number comparisons using place value concepts</li> </ul> <p><b>Standards for Task 5:</b> <b>2.NBT.4</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using &gt;, =, and &lt; symbols to record the results of comparisons.</p> <ul style="list-style-type: none"> <li>•</li> </ul>
<p><b>Task 6: Creating Largest and Smallest Numbers</b> Jason was given three number cards: 8, 3, and 6.</p> <div style="text-align: center;"> <div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; text-align: center; line-height: 40px; margin: 5px;">8</div> <div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; text-align: center; line-height: 40px; margin: 5px;">3</div> <div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; text-align: center; line-height: 40px; margin: 5px;">6</div> </div> <p>a) What is the largest three-digit number Jason could make using the given number cards? Write it in numerals, words and expanded form. Explain how you know you created the largest three-digit number.</p> <p>b) What is the smallest three-digit number Jason could make using the given number cards? Write it in numerals, words and expanded form. Explain how you know you created the smallest three-digit number.</p> <p>c) Write a correct comparison of your two numbers using symbols.</p>	<p><b>Goals for Task 6:</b></p> <ul style="list-style-type: none"> <li>• Create three-digit numbers</li> <li>• Understand the role of place value in comparing three-digit numbers</li> <li>• Solidify understanding of place value for three-digit numbers</li> </ul> <p><b>Standards for Task 6:</b> <b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>a) 100 can be thought of as a bundle of ten tens — called a “hundred.”</p> <p>b) The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.</p> <p><b>2.NBT.4</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using &gt;, =, and &lt; symbols to record the results of comparison.</p>

## Tennessee State Standards Alignment

Task	2.NBT.1	2.NBT.2	2.NBT.3	2.NBT.4	2.MD.6	MP 1	MP 2	MP 3	MP 4	MP 5	MP 6	MP 7	MP 8
<b>Task 1</b> <b>The Birthday Scarf</b>		✓			✓	✓	✓		✓		✓	✓	✓
<b>Task 2</b> <b>How Many Ways?</b>	✓		✓			✓	✓		✓	✓	✓	✓	
<b>Task 3</b> <b>Building Numbers with Base Ten</b>	✓					✓	✓	✓	✓		✓		
<b>Task 4</b> <b>Number Word Sort</b>			✓			✓	✓	✓	✓		✓	✓	
<b>Task 5</b> <b>Comparing Three-Digit Numbers</b>				✓		✓	✓	✓	✓		✓		
<b>Task 6</b> <b>Creating and Largest and Smallest Numbers</b> <i>Solidifying</i>	✓		✓	✓		✓	✓	✓	✓		✓		

### The Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Name \_\_\_\_\_

### Task 1: The Birthday Scarf

Maggie wanted to buy her mother a scarf for her birthday that costs \$9.00. She emptied her piggy bank to see how much money she had. She sorted her coins and had 39 dimes and 57 nickels.

- a) How much money did she have in dimes?
  
  
  
  
  
  
  
  
  
  
- b) How much money did she have in nickels?
  
  
  
  
  
  
  
  
  
  
- c) Does Maggie have enough money to buy the scarf? Explain your thinking and tell how skip counting can help you solve this problem.

## Tennessee Department of Education: Lesson Guide 1

Task 1: The Birthday Scarf		Grade 2
<p>Maggie wanted to buy her mother a scarf for her birthday that costs \$9.00. She emptied her piggy bank to see how much money she had. She sorted her coins and had 39 dimes and 57 nickels.</p> <p>a) How much money did she have in dimes?</p> <p>b) How much money did she have in nickels?</p> <p>c) Does Maggie have enough money to buy the scarf? Explain your thinking and tell how skip counting can help you solve this problem.</p>		
<b>Teacher Notes:</b>		
<p>If 2.MD.6 has not been covered, task 1 may be omitted from this arc. Students will need to know that dimes are worth \$.10 and nickels are worth \$.05. They will also need to understand that \$9.00 would be the same as 900 cents. If students struggle with this task, have counters to represent dimes and nickels available.</p>		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
<p><b>2.NBT.2</b> Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p><b>2.MD.6</b> Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i></p>	<ol style="list-style-type: none"><li>1. Make sense of problems and persevere in solving them.</li><li>2. Reason abstractly and quantitatively.</li><li>3. Construct viable arguments and critique the reasoning of others.</li><li>4. Model with mathematics.</li><li>5. Use appropriate tools strategically.</li><li>6. Attend to precision.</li><li>7. Look for and make use of structure.</li><li>8. Look for and express regularity in repeated reasoning.</li></ol>	
<b>Essential Understandings:</b>		
<ul style="list-style-type: none"><li>• A dime is worth 10 cents; a nickel is worth 5 cents.</li><li>• Skip counting on the number line generates number patterns.</li><li>• Skip counting by tens when starting at zero generates numbers that end in a zero in the ones place.</li><li>• Skip counting by fives starting at zero generates numbers that end in either a zero or a five in the ones place.</li></ul>		



Explore Phase	
Possible Solution Paths	Assessing and Advancing Questions
<p><b>a)</b> Students skip count by 10s until they get to 100, recognizing that this is a dollar. They continue counting by 10s, making additional dollars. They would then count their groups of hundreds (dollars) and then add in the leftover tens (90 cents).</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>When skip counting by tens, what do you notice about the numbers?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>How many dimes does Maggie have?</li> <li>How much is a dime worth? Two dimes? Three dimes? Ten dimes?</li> <li>Do you know a quick way to count by tens?</li> </ul>
<p><b>b)</b> Students might skip count by 5s until they get to 100, recognizing that this is a dollar. They continue counting by 5s, making additional dollars. They would then count their groups of hundreds (dollars) and then add in the leftover 5s (85 cents).</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>When skip counting by tens, what do you notice about the numbers?</li> <li>If you had more nickels, then why is your total for nickels a smaller number than your total for dimes? Explain.</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>How many nickels does Maggie have?</li> <li>How much is a nickel worth? Two nickels? Three nickels? Twenty nickels?</li> <li>Do you know a quick way to count by fives?</li> </ul>
<p><b>c)</b> Students recognize they have to combine dimes and nickels. Since there were 390 dimes, student would start skip counting by fives with 390, 395, 400, recognizing that 400 is \$4. They continue counting by 5s, making additional dollars. They would then count their groups of hundreds (dollars) and then add in the leftover 5s (75 cents). They would determine that they did not have enough money to purchase the scarf.</p> <p>Alternately student may start with 285 nickels and skip count by 10s.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How did you know how to combine your dimes and nickels?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>How many dimes does Maggie have? Can you start with that number and count the nickels from there?</li> </ul>
<p><b>Part c) alternate path:</b> Students might utilize a thousand chart and skip count by ten 39 times, landing on 390. The student might even lay one dime on each square on the thousand chart until they ran out of the 39 dimes. The last dime would land on the number 390. Some students might continue using the thousand chart, but would lay two nickels on each square, making a ten. They would have enough nickels to place two on each square through the number 670. They would then only have one nickel left for a total of 675.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>What pattern do you notice on a thousand chart?</li> <li>Can you explain why you used the thousand chart?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you use a thousand chart to answer part c)?</li> <li>What is the difference between a hundred chart and a thousand chart?</li> <li>What do you skip count by on a hundred chart? What do you skip count by on a thousand chart?</li> <li>How many dimes go on each space of the thousand chart?</li> </ul>

	<ul style="list-style-type: none"> <li>How many nickels go on each space of a thousand chart?</li> <li>How much is one row of the thousand chart worth?</li> </ul>
<p><b>Part c) alternate path:</b></p> <p>Students might draw 39 dimes and place two “tick-marks” on each dime. They would also draw 57 nickels and place one “tick-mark” on each nickel. The students would then skip count by 5’s for each “tick-mark” drawn on the coins, recognizing that each 100 count is another dollar. They would come up with a total of 675 or \$6.75.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Why did you draw one “tick-mark” on each nickel? Why did you draw two “tick-mark” on each dime?</li> <li>Can you explain why you skip counted different coins with different values by fives?</li> <li>Can you explain how you solved the problem to a friend?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
Students might skip count by 10s up to 190 correctly, and then write the next number incorrectly (or skip count by 5s to 195, and then write the next number incorrectly).	<ul style="list-style-type: none"> <li>Can you count aloud from 195? What is the fifth number you say aloud?</li> </ul>
Students might skip count correctly by 10s coming up with \$3.90 and then by 5s, coming up with \$2.85, but then combine the coins incorrectly.	<ul style="list-style-type: none"> <li>How many dimes does Maggie have? Can you start with that number and count the nickels from there?</li> <li>Is there a way to combine the coins with skip counting rather than by addition?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
If students can’t get started....	<ul style="list-style-type: none"> <li>How much is a dime worth? How much is a nickel worth?</li> <li>Can you take a hundred chart and color every 5<sup>th</sup> number? What do you notice about the squares you colored?</li> <li>Can you take a hundred chart and color every 10<sup>th</sup> number? What do you notice about the squares you colored?</li> <li>How is skip counting by tens similar to counting and working with base tens blocks?</li> <li>When you skip count by 10s, does the number change in the ones place? Tens place? Will this ever change in the hundreds place?</li> <li>Can you use a thousand chart, which skip counts by 10s, to help you solve this task? Explain.</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>Can you make a number line that skip counts by fives? By tens? By hundreds?</li> <li>Can you skip count by 10 to 1,000 with a friend?</li> <li>Can you skip count by 5 to 1,000 with a friend?</li> <li>If Maggie only had dimes in her piggy bank, how many would she need in order to buy the scarf?</li> </ul>
<b>Discuss/Analyze</b>	

**Whole Group Questions**

- What did you learn from this task?
- Why is skip counting important when counting money?
- When skip counting by 10s, what number comes after 190? Explain.
- Can someone explain to the class how you combined the dimes and nickels? Did anyone do it differently?
- What patterns did you notice in the numbers as you were skip counting?
- What are some real-life examples of when we would skip count by 2s? 3's? 5's, 10s? 100s?
- Can you create a number line skip counting by 10s? 100s?

Name \_\_\_\_\_

## Task 2: How Many Ways?

Autumn was creating numbers using base ten blocks. She used 13 blocks to create the numbers.

- a) List at least four two-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the two-digit numbers.
- b) List at least four three-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the three-digit numbers.

## Tennessee Department of Education: Lesson Guide 2

Task 2: How Many Ways?		Grade 2
Autumn was creating numbers using base ten blocks. She used 13 blocks to create the numbers.		
a) List at least four two-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the two-digit numbers.		
b) List at least four three-digit numbers she could have created with the 13 blocks and draw a representation of the base ten blocks used to create each of the three-digit numbers.		
Teacher Notes:		
If your students are challenged to find numerous solutions, encourage them to create their numbers using an organized system. It is not the design of the task to limit students to rods and units when creating three-digit numbers. However, if students are overwhelmed by the number of possible answers, you may do so.		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
<p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>a. 100 can be thought of as a bundle of ten tens — called a “hundred.”</p> <p>b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.</p>	<ol style="list-style-type: none"><li>1. Make sense of problems and persevere in solving them.</li><li>2. Reason abstractly and quantitatively.</li><li>3. Construct viable arguments and critique the reasoning of others.</li><li>4. Model with mathematics.</li><li>5. Use appropriate tools strategically.</li><li>6. Attend to precision.</li><li>7. Look for and make use of structure.</li><li>8. Look for and express regularity in repeated reasoning.</li></ol>	
Essential Understandings:		
<ul style="list-style-type: none"><li>• Numbers can be represented using objects, words, and symbols.</li><li>• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth are represented by that digit.</li><li>• Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</li><li>• Numbers can be named in equivalent ways using place value.</li><li>• You can add the value of the digits together to get the value of the number.</li><li>• Skip counting on the number line generates number patterns.</li></ul>		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
<p>a)</p> <p>Students will find at least four two-digit numbers using exactly 13 base ten blocks. Students will record the numbers and draw correct representations.</p> <p>Students’ combination of rods and units should not exceed 99.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"><li>• Could you count out loud the base ten blocks you used to show your first number?</li><li>• Can you explain how you came up with your other solutions?</li><li>• Did you find all the possible solutions? How do you know?</li><li>• Is it possible to create a two-digit number with 13 base ten blocks using no units? Explain.</li></ul>	

	<p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you name some two-digit numbers? Could you write them on a place value chart? How would you represent them with base ten blocks?</li> </ul>
<p><b>b)</b></p> <p>Students will find at least four three-digit numbers using exactly 13 base ten blocks. Students will record the numbers and draw correct representations.</p> <p>Students' combination of flats, rods, and units should not exceed 999.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Could you count aloud the base ten blocks you used to show your first number?</li> <li>Can you explain how you came up with your other solutions?</li> <li>Did you find all the possible solutions? How do you know?</li> <li>Is it possible to create a three-digit number with 13 base ten blocks using no tens or units? Explain.</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you name some three-digit numbers? Could you write them on a place value chart? How would you represent them with base ten blocks?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
Students are unable to find four two-digit numbers or three-digit numbers.	<ul style="list-style-type: none"> <li>Could you trade one of your base ten blocks in your solution for a different base ten block and still create a two-digit number? Could you continue to make trades this way to look for other solutions?</li> </ul>
Students might create a two digit number using 1 ten and 3 ones, which totals 13, but does not meet the criteria of using 13 base ten blocks.	<ul style="list-style-type: none"> <li>Could you count aloud the base ten blocks you used to show your number? Now count how many blocks you used to create this number. Did you use 13 base ten blocks?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
If students can't get started....	<ul style="list-style-type: none"> <li>Could you write some examples of what a two-digit number looks like? A three-digit number?</li> <li>What does each base ten block represent? How much is a unit? A rod? A flat?</li> <li>What number do you create if you use only units? Is this a two-digit number?</li> <li>What number do you create if you use only tens? Does that solution work to create a two-digit number? Does that solution work to create a three-digit number?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>What would be different if the problem asked you to create a two-digit number using only 8 blocks?</li> <li>What numbers could you create if the problem said to create a three-digit number using 13 tens and/or hundreds only (no ones)?</li> </ul>

	<ul style="list-style-type: none"> <li>• Can you write the number created in expanded form? How does counting the base ten blocks used help you to write the number in expanded form?</li> <li>• Can you find all the possible three-digit numbers? How do you know you have them all?</li> <li>• Can you put the numbers you created on a number line?</li> <li>• Can you explain to a friend how you found your solutions and count the base ten blocks aloud to them?</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>• Ask students to share and explain possible solutions. Ask if others found alternate solutions. If so, have them model and explain.</li> <li>• Can you explain how you formed your two-digit numbers? Did someone use a different strategy?</li> <li>• Can you explain to others what they should think about if they are stuck on this problem.</li> <li>• What base ten blocks did you use in forming two-digit numbers? How did you know to use these?</li> <li>• What base ten blocks did you use in forming three-digit numbers? How did you know to use these?</li> <li>• Can someone explain the similarities between a place value chart and the base ten blocks? Differences?</li> </ul>	

### Task 3: Building Numbers with Base Ten

Brandon, Austin, and Emily are building the number 435 using base ten blocks. Each has displayed the number in different ways using the following blocks.



#### Brandon's Representation



#### Austin's Representation



#### Emily's Representation



1. Is each representation correct or incorrect? Explain your answer.

a. Brandon:

b. Austin:

c. Emily:

2. Is there another way to represent the number 435? Explain.



**Task 3: Building Numbers with Base Ten**
**Grade 2**

Brandon, Austin, and Emily are building the number 435 using base ten blocks. Each has displayed the number in different ways.

**Brandon's Representation**

**Austin's Representation**

**Emily's Representation**


1. Is each representation correct or incorrect? Explain your answer?
  - a) Brandon:
  - b) Austin:
  - c) Emily:
2. Is there another way to represent the number 435? Explain.

**Teacher Notes:**

Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice
<p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <ol style="list-style-type: none"> <li>a. 100 can be thought of as a bundle of ten tens — called a “hundred.”</li> <li>b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>
<b>Essential Understandings:</b> <ul style="list-style-type: none"> <li>• Numbers can be represented using objects, words, and symbols.</li> <li>• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.</li> <li>• Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</li> <li>• Numbers can be named in equivalent ways using place value.</li> </ul>	

Explore Phase	
Possible Solution Paths	Assessing and Advancing Questions
<p><b>Problem 1:</b> Students indicate that Austin and Emily both have correct representations using base ten blocks, explaining that the only difference is that Austin used 4 hundreds, 3 tens and 5 ones and Emily used 4 hundreds, 2 tens and 15 ones, since 15 ones is the same as one ten and five ones.</p> <p>Students indicate that Brandon's representation is incorrect because it does not show the value since he only used ones to create his number. Brandon's blocks represent the number 12.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you tell me how Austin's representation is different than Emily's?</li> <li>Why can both representations be considered correct?</li> <li>What number did Brandon represent using base ten blocks?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>What number does the flat represent? The rod? The unit?</li> <li>Can you count the value of Brandon's blocks based on each block's value?</li> <li>Are there multiple ways of representing this number using base ten blocks?</li> <li>Why would you want to be able to represent a number in different ways using base ten blocks?</li> </ul>
<p><b>Problem 2:</b></p> <p>Students may create 435 by using ten rods for one flat or ten units for one rod in any combination that totals 435.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How do you know you have created 435?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you tell me how Austin's representation is different than Emily's?</li> <li>What number does the flat represent? The rod? The unit?</li> </ul>
Possible Student Misconceptions	Assessing and Advancing Questions
Students might use only ones to represent each digit.	<ul style="list-style-type: none"> <li>Can you read the number 435 aloud to me? Does what you read match the amount shown by Brandon? Where is the 400 in his representations? Where is the 30? Where is the 5?</li> <li>Can you show me the ones place, tens place, and hundreds place?</li> <li>Which base ten manipulative is used to show ones? Tens? Hundreds?</li> </ul>
Students might not see that 3 tens and 5 ones is the same value as 2 tens and 15 ones.	<ul style="list-style-type: none"> <li>Can you add the blocks together and tell me what each totals?</li> <li>If Austin's and Emily's blocks were different, but each still totaled 435 after counting, can they both be correct?</li> </ul>
Entry/Extensions	Assessing and Advancing Questions
If students can't get started....	<ul style="list-style-type: none"> <li>What is something you know about this problem?</li> <li>Can you read the number aloud?</li> <li>Could you build a smaller number (tens and ones only) using base ten blocks?</li> </ul>

	<ul style="list-style-type: none"> <li>• How many ones make up a ten?</li> <li>• How many tens make up a hundred?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>• What have you learned from this task?</li> <li>• What do you still not understand about place value?</li> <li>• If you did not have any tens in your base ten block set, how could you build this number using just hundreds and ones?</li> <li>• Why is understanding that the three digits of a three-digit number represent amounts of hundreds, tens, and ones important?</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>• Can anyone tell the class how Austin's representation is different than Emily's?</li> <li>• Is Austin's representation more efficient than Emily's? Why or why not?</li> <li>• What might be a reason Emily showed her number in a different way?</li> <li>• Did anyone think that after finding one correct answer all the others must be wrong? Why or why not?</li> <li>• What have we learned before that was useful in helping solve this problem?</li> <li>• How can you make a connection with this problem and money? Explain.</li> <li>• If you were making 35 cents with coins, what are some ways to do that using coins?</li> <li>• Can you find this number on a thousands chart? Show on a number line?</li> </ul>	

**Name**\_\_\_\_\_

## Task 4: Number Word Sort

Brandon was helping his teacher sort some number word flash cards.

- a) Sort the cards into different piles. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.
- b) Re-sort the number word cards a second time using a different rule. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.

Cut apart the number word cards below to use for the task above.

<b>four</b>	<b>sixteen</b>	<b>twenty-three</b>
<b>twelve</b>	<b>eighty-five</b>	<b>three hundred twenty-one</b>
<b>twenty</b>	<b>nineteen</b>	<b>thirty-three</b>
<b>one</b>	<b>Forty-four</b>	<b>six hundred seventy-four</b>
<b>forty</b>	<b>twenty-two</b>	<b>ninety-nine</b>
<b>two hundred thirty-two</b>	<b>six</b>	<b>five hundred seventy-nine</b>
<b>seventy-five</b>	<b>sixty-five</b>	<b>seventy-seven</b>
<b>thirteen</b>	<b>fifteen</b>	<b>nine hundred twenty-eight</b>

# Tennessee Department of Education: Lesson Guide 4

Task 4: Number Word Sort		Grade 2
Brandon was helping his teacher sort some number word flash cards.		
a) Sort the cards into different piles. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.		
b) Re-sort the number word cards a second time using a different rule. Write a sentence explaining the rule you used to sort the cards. Make a list that shows how you sorted your cards. Write the number in standard form and expanded form beside each word form.		
Teacher Notes:		
As students sort the cards, encourage them to think about the number of digits in the number as one sorting rule. If no student sorts by that rule, bring this up during whole group discussion.		
If students struggle, especially with recording their answers, teacher may choose to have students glue down the cards into distinct groups and write the number forms beside each word.		
Tennessee State Standards for Mathematical Content		Tennessee State Standards for Mathematical Practice
2.NBT.3 Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.		1. Make sense of problems and persevere in solving them.
		2. Reason abstractly and quantitatively.
		3. Construct viable arguments and critique the reasoning of others.
		4. Model with mathematics.
		5. Use appropriate tools strategically.
		6. Attend to precision.
		7. Look for and make use of structure.
		8. Look for and express regularity in repeated reasoning.
Essential Understandings:		
• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.		
• You can add the value of the digits together to get the value of the number.		
• Numbers can be named in equivalent ways using place value.		
Explore Phase		
Possible Solution Paths		Assessing and Advancing Questions
Students sort the cards based on the number of words it contains.		Assessing Questions:
		• How can you state or write the rule that you used to sort?
		• What made you think of sorting the cards that way? Explain.
		• Are the numbers that are written using a single word name all single digit numbers?
		• Does sorting in this way help you in your thinking about writing number words correctly? How?
		Advancing Questions:
		• What do you notice about these two cards (while holding up one card with one word and another card with two words)?

	<ul style="list-style-type: none"> <li>Where does this card belong (holding up a third card with only one word on it)?</li> <li>Can you sort the remaining cards similarly?</li> </ul>
Students sort the cards depending on whether it is an even or an odd number.	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How did you think about these number words and know they were even or odd when they were not written in standard form? Explain.</li> <li>How do you know a number is even? How do you know a number is odd?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>What do you notice about these two cards (while holding up one card with an even number and another card with an odd number)?</li> <li>Where does this card belong (holding up a third card with an odd number on it)?</li> <li>Can you sort the remaining cards similarly?</li> </ul>
Students sorts the cards depending on whether it contains a hyphen.	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How are the cards with a hyphen different from the cards without a hyphen? Explain.</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>What do you notice about these two cards (while holding up one card with a hyphen and another card without a hyphen)?</li> <li>Where does this card belong (holding up a third card with a hyphen)?</li> <li>Can you sort the remaining cards in a similar manner?</li> </ul>
<b>Possible Student Misconceptions</b>	<b>Assessing and Advancing Questions</b>
Students will simply randomly alternate placing cards into two groups making two piles with equal number of cards in each pile.	<ul style="list-style-type: none"> <li>Can you explain the rule you used to sort the cards? What is unique about each group?</li> <li>Did the task ask you to make two equal groups of number word cards? What did the task ask you to do with the cards?</li> <li>Can you think of a way to sort the cards by some attribute into two groups? Show me.</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
If students can't get started....	<ul style="list-style-type: none"> <li>Can you read aloud each number word on the cards?</li> <li>Can you write the standard form beside each number word?</li> <li>What do you notice about the numbers once written in standard form?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>Can you create a word sort using number word cards for the hundreds and thousands?</li> <li>Can you look at a friend's sort and guess what rule they used to sort?</li> </ul>

<b>Discuss/Analyze</b>
<b>Whole Group Questions</b>
<p>Pick groups to share their work. Select a sequence that will progress students through higher order thinking. Highlight any sorting rules involving the number of digits or place value.</p> <ul style="list-style-type: none"><li>• Were you able to connect what you know about doing word sorts in reading with doing word sorts in math? Explain.</li><li>• What did you learn from this task? Explain.</li><li>• Exchange word sorts with your elbow partner and explain each other's sorting rule.</li><li>• Did you identify any patterns in the number words? Explain.</li></ul>



Name \_\_\_\_\_

### Task 5: Comparing Three-Digit Numbers

Create three-digit numbers, using the digits 3, 0, 5, and 8, that make each of the following comparisons true. You may use the digits more than once. Use place value to explain how you know each comparison is true.

a)    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_    >    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_

b)    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_    <    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_

c)    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_    =    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_

# Tennessee Department of Education: Lesson Guide 5

Task 5: Comparing Three-Digit numbers		Grade 2
Create three-digit numbers, using the digits 3, 0, 5, and 8, that make each of the following comparisons true. You may use the digits more than once. Use place value to explain how you know each comparison is true.		
a)    _____    _____    _____    >    _____    _____    _____		
b)    _____    _____    _____    <    _____    _____    _____		
c)    _____    _____    _____    =    _____    _____    _____		
Teacher Notes:		
Depending on the ability of the students in the class, you may choose to have number cards printed and available for students to cut out and manipulate as they form the three-digit numbers.		
Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice	
2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	<div>1. Make sense of problems and persevere in solving them.</div> <div>2. Reason abstractly and quantitatively.</div> <div>3. Construct viable arguments and critique the reasoning of others.</div> <div>4. Model with mathematics.</div> <div>5. Use appropriate tools strategically.</div> <div>6. Attend to precision.</div> <div>7. Look for and make use of structure.</div> <div>8. Look for and express regularity in repeated reasoning.</div>	
Essential Understandings:		
<div>• For any number, the place of a digit tells how many ones, tens, hundreds, and so forth are represented by that digit.</div> <div>• Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.</div> <div>• A number to the right of another on the number line is the greater number.</div> <div>• Numbers can be compared using greater than, less than, or equal.</div> <div>• Whole numbers can be compared by analyzing corresponding place values.</div>		
Explore Phase		
Possible Solution Paths	Assessing and Advancing Questions	
<div>Students create two three-digit numbers for each symbol, comparing them correctly using the symbols &gt;, &lt;, and =.</div> <div>Number possibilities are numerous, but each shows the chosen symbol to be true based upon comparisons using place value.</div> <div>Students should be able to explain that if the hundreds place is the same value, then look at the tens place. If the tens place is the same value, then comparison of the ones place would be necessary.</div>	<div>Assessing Questions:</div> <div>• Can you read the numbers, including the words naming the symbols, aloud?</div> <div>• Can you tell me how many hundreds, tens, and ones make up each number you compared?</div> <div>• How did you determine which was the greater/lesser number?</div> <div>Advancing Questions:</div> <div>• How would you know if a number is larger than another number?</div> <div>• Can you place both numbers on a number line and explain how this helps show if you used the comparing symbols correctly?</div>	

Possible Student Misconceptions	Assessing and Advancing Questions
Students create two 3-digit numbers that are exactly the same showing a correct example of the = symbol, but are unable to correctly show the same for the > and < symbol.	<ul style="list-style-type: none"> <li>What do you know about the symbols &lt; and &gt;?</li> <li>Can you read the symbols aloud?</li> <li>Can you read the numbers you created aloud, placing your finger under the numbers as you read?</li> <li>Which digits should you use to compare these numbers?</li> </ul>
Entry/Extensions	Assessing and Advancing Questions
If students can't get started....	<ul style="list-style-type: none"> <li>Can you create two two-digit numbers and use correct comparison symbols to write a comparison?</li> <li>Can you show me where the two numbers would be on a number line? How do you know which number is larger?</li> <li>Can you represent the numbers you created with base ten blocks? Which base ten blocks represent the ones? Tens? Hundreds?</li> </ul>
If students finish early....	<ul style="list-style-type: none"> <li>Can you practice using comparing symbols using an online game at ABCya  <a href="http://www.abcya.com/comparing_number_values_jr.htm">http://www.abcya.com/comparing_number_values_jr.htm</a>  Or at  <a href="http://www.crickweb.co.uk/ks2numeracy-calculation.html#ncmenu">http://www.crickweb.co.uk/ks2numeracy-calculation.html#ncmenu</a> </li> <li>What does more mean? Can you list synonyms for more?</li> <li>What does less mean? Can you list synonyms for less?</li> <li>Could you create two four-digit numbers and compare them using the symbols &gt;, &lt;, and =?</li> <li>Can you model these numbers using base ten blocks to show that you correctly used symbols when comparing the two numbers?</li> </ul>
Discuss/Analyze	
Whole Group Questions	
<ul style="list-style-type: none"> <li>How does understanding place value help you to compare numbers?</li> <li>When comparing numbers, is it best to start at the ones place or at the hundreds place?</li> <li>Did anyone have a special strategy they used to compare numbers and if so, would you like to explain your thoughts to the class?</li> <li>If I give you the number 421, can you fill in the blank (write on the board) <math>421 &lt; \underline{\quad}</math>? <math>421 &gt; \underline{\quad}</math>?</li> </ul>	

### Task 6: Creating Largest and Smallest Numbers

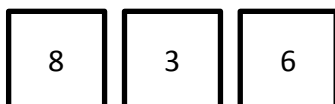
Jason was given three number cards: 8, 3, and 6.



- a) What is the largest three-digit number Jason could make using the given number cards? Write it in numerals, words, and expanded form. Explain how you know you created the largest three-digit number.
- b) What is the smallest three-digit number Jason could make using the given number cards? Write it in numerals, words, and expanded form. Explain how you know you created the smallest three-digit number.
- c) Write a correct comparison of your two numbers using symbols.

**Task 6: Creating Largest and Smallest Numbers**
**Grade 2**

Jason was given three number cards: 8, 3, and 6.



- What is the largest three-digit number Jason could make using the given number cards? Write it in numerals, words and expanded form. Explain how you know you created the largest three-digit number.
- What is the smallest three-digit number Jason could make using the given number cards? Write it in numerals, words and expanded form. Explain how you know you created the smallest three-digit number.
- Write a correct comparison of your two numbers using symbols.

**Teacher Notes:**

Students should use each card once and only once to create each number.

Tennessee State Standards for Mathematical Content	Tennessee State Standards for Mathematical Practice
<p><b>2.NBT.1</b> Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>c) 100 can be thought of as a bundle of ten tens — called a “hundred.”</p> <p>d) The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p> <p><b>2.NBT.3</b> Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.</p> <p><b>2.NBT.4</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparison.</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>

**Essential Understandings:**

- Numbers can be represented using objects, words, and symbols.
- For any number, the place of a digit tells how many ones, tens, hundreds, and so forth, are represented by that digit.
- Sets of ten, one hundred and so forth must be perceived as single entities when interpreting numbers using place value.
- Numbers can be named in equivalent ways using place value.
- A number to the right of another on the number line is the greater number.
- Numbers can be compared using greater than, less than, or equal.
- Whole numbers can be compared by analyzing corresponding place values.
- You can add the value of the digits together to get the value of the number.

Explore Phase	
Possible Solution Paths	Assessing and Advancing Questions
<p><b>a)</b></p> <p>Students place the 8 in the hundreds place, the 6 in the tens place, and the 3 in the ones place, creating 863, the largest possible number. The students then write “eight hundred sixty-three,” showing word form, and “<math>800 + 60 + 3</math>,” showing expanded form.</p> <p>Students are able to explain that placing the largest number in the hundreds place, then the next largest number in the tens place, and finally the smallest number in the ones place creates the largest number possible.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How did you determine the number for the hundreds, tens, and ones?</li> <li>How did you determine there was no number larger than the one you made?</li> <li>Did you use base ten blocks to help you solve this problem?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Which is bigger 800 or 300? How can you tell?</li> </ul>
<p><b>b)</b></p> <p>Students place the 3 in the hundreds place, the 6 in the tens place, and the 8 in the ones place, creating the number 368, the smallest number.</p> <p>The students then write “three hundred sixty-eight,” showing word form, and “<math>300 + 60 + 8</math>,” showing expanded form.</p> <p>Students explain that placing the smaller digits in the greater place value helps create the smallest number possible. Therefore, placing the 3 in the hundreds place, the six in the tens place, and the 8 in the ones place.</p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>How did you determine the number for the hundreds, tens, and ones?</li> <li>How did you check to determine there was no number smaller than the one you made?</li> <li>Did you use base ten blocks to help you solve this problem?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>Which is smaller 800 or 300? How can you tell?</li> </ul>
<p><b>c)</b></p> <p><math>863 &gt; 368</math> or <math>368 &lt; 863</math></p>	<p><b>Assessing Questions:</b></p> <ul style="list-style-type: none"> <li>Can you explain your answer?</li> <li>Can you tell me how the largest number is different from the smallest number?</li> </ul> <p><b>Advancing Questions:</b></p> <ul style="list-style-type: none"> <li>What do you know about the symbols <math>&lt;</math> and <math>&gt;</math>?</li> </ul>
Possible Student Misconceptions	Assessing and Advancing Questions
<p><b>a) and b)</b></p> <p>Students might place the largest (smallest) digit in the hundreds place, but then place the remaining two cards in no particular order, not realizing that you not only must create a number with the most (least) hundreds, but the most (least) tens and ones as well. (Creating number 836 for largest number instead of 863 or 386 for smallest instead of 368).</p>	<ul style="list-style-type: none"> <li>Can you read the number aloud?</li> <li>What is the problem asking you to do?</li> <li>How do you know you have created the largest number? Smallest number?</li> <li>If you swap the numbers in the ones place and tens place, is your number still the largest possible 3-digit number? Smallest 3-digit number?</li> <li>What do you know about place value that will help you determine if you created the largest number? Smallest?</li> </ul>

<p><b>a) and b)</b> Students put cards in order from largest to smallest (smallest to largest) but are unable to explain how they know it is the largest number. They are ordering numbers from biggest to smallest and do not understand that they represent hundreds, tens, and ones.</p>	<ul style="list-style-type: none"> <li>• How do you know you have created the largest number? Smallest number?</li> <li>• If you built the numbers using base ten blocks, which would create the most hundreds? Using the 8 in the hundreds? The 6 in the hundreds? Or the 3 in the hundreds? (Child chooses 8) Now what about the tens? Which would create the most tens? Using the 6 or the 3?</li> <li>• What do you know about place value that will help you determine if you created the largest number? Smallest?</li> </ul>
<p><b>c)</b> Student incorrectly writes: <math>863 &lt; 368</math> or <math>368 &gt; 863</math></p>	<ul style="list-style-type: none"> <li>• Can you read this aloud?</li> </ul>
<b>Entry/Extensions</b>	<b>Assessing and Advancing Questions</b>
<p>If students can't get started....</p>	<ul style="list-style-type: none"> <li>• What is something you know about this problem?</li> <li>• Could you create the largest two-digit number using two number cards? Smallest two-digit number using two number cards?</li> <li>• What is the value of this place (teacher points at the hundreds place of a drawing on board with three blanks, such as ____ _)?</li> <li>• Can you use a place value chart to help you solve this problem?</li> </ul>
<p>If students finish early....</p>	<ul style="list-style-type: none"> <li>• How many different three-digit numbers can you create using these three number cards?</li> <li>• Would you use the same strategy if you were given 4 number cards to create the largest/smallest number possible?</li> <li>• If you could choose any three numbers to create the largest three-digit number, which numbers would you choose? Why?</li> </ul>
<b>Discuss/Analyze</b>	
<b>Whole Group Questions</b>	
<ul style="list-style-type: none"> <li>• What ideas have we learned before that were useful in helping solve this problem?</li> <li>• What do you know about hundreds, tens, and ones that helped you to work on this problem?</li> <li>• How did you form the largest number? How did you know it is the largest?</li> <li>• How did you form the smallest number? How did you know it is the smallest? Did anyone think of this a different way?</li> <li>• Would creating the largest four-digit number be a more difficult problem than creating the largest three-digit number? Why or why not?</li> </ul>	